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REPORT



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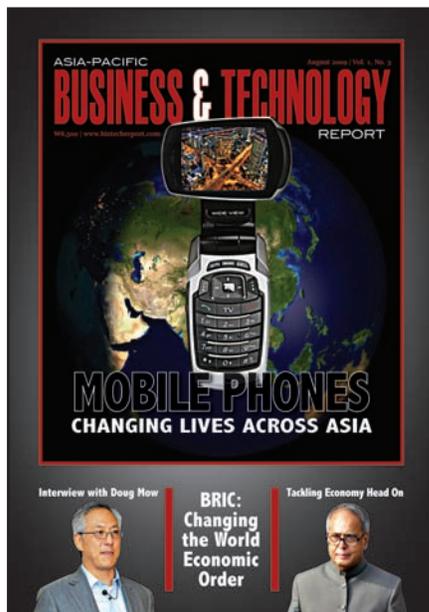
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Reconstructing the World Economic Order Brick by BRIC

BY ADAM WALSH

Brazil, Russia, India and China, also known by the group name BRIC, have been in the news quite frequently as of late. But, why not? The four countries have just had their first-ever heads of state summit meeting and seem like they may be the first economies to crawl out of the current economic mess. The United States and the rest of the world must be watching to see if they can hold together their loose interests long enough to rearrange the current order of the world's financial hierarchy. The following is an examination of the brief history of BRIC and where it may or may not be headed and which country will be the world economic leader when all is said and done.

The acronym "BRIC" was first allegedly coined in a thesis by Goldman Sachs investment bank to lump together the rapidly growing economies of Brazil, Russia, India and China. The crux of the paper, which was published in 2003, dropped the bombshell of a statement that by their estimates, the rapidly developing BRIC nations' economies would surpass those of the current world's richest by 2050. Reason being, it was viewed that the BRIC nations had such large economic potential that they would be able to become the world's largest economies within five decades. The paper also predicted that the nations would also make-up around 40 percent of the world's entire population by that time.



(Left to right) Brazilian President Luiz Inácio Lula da Silva, Russian President Dmitry Medvedev, Chinese President Hu Jintao, Indian Prime Minister Manmohan Singh

By 2006, investor shares in BRIC countries had skyrocketed. Critics at the time, however, stated that there were three important market basics that needed to be heeded. First, there was the fact that developing markets are not always the most stable, which makes investments risky. Secondly, some financial experts at the time recommended investments to look further down the road than for the quick gain, given the propensity for developing markets to fluctuate, but in the long run to come out on top. While finally, something that should have been a secret to nobody, is the fact that the BRIC countries have so few things in common other than being up-and-comers that there was bound to be differences of opinion on issues and anything but a group-think mentality.

Brazil, at the time, was seen as very dependent on commodity prices, which accounted for 40 percent of its exports. Russia was like Brazil as far as commodities were concerned, but even more so. Also, there were other problems with the Russian market at the time being so dependent on oil prices, not to mention the stormy political situation



The acronym “BRIC” was first allegedly coined in a thesis by Goldman Sachs investment bank to lump together the rapidly growing economies of Brazil, Russia, India and China. The crux of the paper, which was published in 2003, dropped the bombshell of a statement that by their estimates, the rapidly developing BRIC nations’ economies would surpass those of the current world’s richest by 2050.

that was always menacingly creeping in the background with its cohorts, repression of freedom and corruption. It was India and China who were seen as the more fruitful of the ‘fab four’ upon the start of piling the BRICs together. Both economies had been on a tear, kicking down the doors to prosperity and had been receiving huge amounts of foreign direct investment. China, although building great infrastructure as it modernized its cities, also faced potential problems in its rural areas, namely Tibet and the Xinjiang. It was hoped that the up-and-coming Olympics would continue to fuel the unequalled soaring Asian dragon. India, the world’s largest democracy, witnessed its companies doing very well, but also was seen as week vis-à-vis infrastructure.

Financial experts’ views of 2006, albeit only three years ago, were far different from those which have emerged post credit crisis. The run from 2003 to 2008 for BRIC nations was tumultuous. Their growth rates and capital in-

flows were the envy of many a nation. Even as the downturn started, on the whole, they still fared well. Once the BRIC economies started to suffer from world economic events, they were the first to hit bottom and seem to be recovering faster than other nations. For the Chinese, they ran into a bit of trouble, spanning a couple of months, but after a stimulus of 17 percent of their gross domestic product, they appear to be on the mend. This year’s projected growth for the Chinese economy has been set at 7 percent, a number that western nations don’t even see during economically fruitful periods. The Chinese have also lowered their dependency on exports while boasting over US\$2 trillion in foreign exchange reserves. India came out of the dust storm strong and tremendously helped by the election victory of the Indian National Congress Party, which is set to spend much more money on infrastructure. Russia took a big hit from the downturn along with the drop in oil prices, falling far from its highs. That said,





the country is also on the rebound, yet many investors are still leery. Finally, Brazil seems like it has weathered the storm just fine.

Can another "I" be added next to India's in the BRIC acronym? That seems to be the question that Indonesia has been asking of late. Its economy is expected to double within the next six years mainly thanks to the profits it has reaped as the world's largest power exporter. Much of the power it generates gets sent to two of its potential new teammates, China and India. For those two countries, as they grow in wealth, they also grow in terms of consumption, and there are many countries including Indonesia that want to profit from what is almost guaranteed to be a lucrative relationship of supply and demand. Indonesia's economy currently stands at \$433 billion and as it expands, so will the wealth and prosperity of Indonesians. A big problem with the country is its roads, which are anything but new and overly crowded with traffic. Another boogeyman, common in almost every developing nation, is corruption. Many believe that Indonesia is ready to be part of a new "BRIIC," but only time will tell.

As Indonesia waits for an invitation to the party, the BRIC nations held their first-ever summit of heads of state in June. At the summit, leaders looked at ways to curb and reduce their reliance on the United States and how to cohesively aid in the repairing of the world economy. They also met to discuss the post-crisis economic paradigm and

As an aside at the meeting, Indian Prime Minister Manmohan Singh and Pakistani President Asif Ali Zardari met to discuss nuclear issues. There was also a meeting of the Shanghai Cooperation Organization (SCO), which is a Central Asian, Russian and Chinese group.

how they could ensure they play a more important future role. The four nations currently sit on 40 percent of the world's gold and currency reserves, while together they produce 15 percent of the globe's GDP. So when this group decides to act, there is a good chance that other countries will listen.

As an aside at the meeting, Indian Prime Minister Manmohan Singh and Pakistani President Asif Ali Zardari met to discuss nuclear issues. There was also a meeting of



the Shanghai Cooperation Organization (SCO), which is a Central Asian, Russian and Chinese group. The members of SCO also stated the need for China and Russia to stand up to the United States. China also pledged US\$10 million for Central Asian nations that were hit hard by the crisis. Upon the summit's culmination, the countries made a group statement calling for a "multipolar world order," in essence rejecting U.S. superpower status once the economy has recovered. There was also agreement between members on how to approach the upcoming G20 meeting in September. Russian President Dmitri Medvedev, while adding to the group's joint statement, said that BRIC wanted "to create the conditions for a fairer world order," and added that the summit was a "historic event."

Many say that it is China who will be the strongest out of the BRIC nations in the coming years. That may well be true, but as the Chinese battle unrest and repeated scandals, whether it be food or infrastructure related, it would be imprudent to overlook India as a serious contender for the title. Since the Indian elections, the country has experienced a boost of confidence toward its ability to continue much-needed reforms. The country isn't up to its eyeballs in debt while consuming hand over fist, and it's not the world's goods manufacturer, dependent upon the jobs and sales of what it manufactures. Also, regardless of what else is going on, India still has a high growth

rate. It grew 6.7 percent last year during the biggest crisis since the Great Depression, a figure that was down from 9 percent the previous fiscal year. Experts have said that the deceleration has stopped and that it is now time to start the recovery. Chief economist at Bank of Baroda in Mumbai was quoted saying, "The GDP growth number justifies the claim that India is dealing with the global crisis from a position of strength." It certainly does seem that way and if it plays its cards right, it could be the Bengal tiger that climbs higher than the Chinese dragon in the years to come.

Do marriages based on finances alone last? That is the question that needs to be asked to the members of BRIC. They have very little in common except for their economies and a desire for a bigger piece of the world economic pie. Will they expand and allow other countries to join in order to increase influence and prosperity, as did similar groups, or will their separate ambitions drive them apart? As the world emerges from a mess largely blamed on the United States, there seems to be room for BRIC nations to accomplish the immediate goals of decreasing their reliance on the United States and increasing their roles on the world economic stage. After that is achieved, it is anyone's guess, as it's more than just physical distance that may keep these powerhouses apart. There are also those who are warning of current problems that must not be overlooked either.

USA-China and the UIGHUR QUESTION

The Small, but Important Role of the National Endowment for Democracy

BY DONALD KIRK

The secret plotting of American civilian agencies and military forces in the name of democracy and freedom has deep roots in U.S. history. It may be pointless to hark back to the Spanish-American war, the defeat of the Spanish in Cuba and the Philippines in 1898, the suppression of “the Philippine insurrection” and the rise of an American colonial government in Manila. We might begin with the two world wars of the 20th century in which the United States, at first hesitantly, turned the balance in Europe in the First World War and then, again somewhat belatedly, entered the Second World War mainly against Germany and Japan.

The end of the World War II opened an era of U.S. involvement in quite different, low-level struggles. It was relatively simple to justify the U.S. role in the two world wars as waged for the sake of democracy, but the rationale got murkier in the ensuing era of limited war, of subversion and of U.S. support for dictators who talked about democracy in order to win American sympathy while fiercely repressing dissent. The bogeyman for two generations after World War II was communism, Soviet and Chinese, and the fear was that between them communist forces would overrun much of Europe, Southeast Asia and the Middle East.

Against this background, the United States has participated in the overthrow of governments on every continent. U.S. support for the Shah of Iran and the protracted war in Indochina, mostly in Vietnam, but also in neighboring Cambodia and Laos, come to mind in any review of the history of “limited war” in Asia. And then there’s Korea, where U.S. forces supported South Korea against North Korea and then Chinese “volunteers,” many of them dragooned from the remnants of the Nationalist Chinese whom Mao Zedong’s forces had finally defeated in 1949. The U.S. rushed to defend South Korea after having armed and advised Genera-

lissimo Chiang Kai-shek’s forces on the Chinese mainland before their flight to Formosa, where the U.S. promises to defend them against frequent Chinese claims to sovereignty over the island province of Taiwan. Similarly, while a truce in the Korean War was formally declared in 1953, the struggle simmers along the demilitarized zone that continues to divide the Korean peninsula.

These days, Americans are very uncertain how to view China. Signs of dissidence inevitably draw sympathy from Washington despite the huge amount of trade that has built up since the U.S. government under President Jimmy Carter transferred formal diplomatic recognition from the Nationalist regime on Taiwan. News of Chinese violations of human rights appears frequently in the American media. Reports of inhumane Chinese bosses, of disasters in mines and construction projects, of environmental pollution, of smog over Beijing and other large cities are staples in the foreign media. Nothing arouses American indignation more, however, than news of bloody suppression of minority groups. Thus it is that Washington has almost unwittingly stumbled into the middle of ethnic conflict in western China from which there’s no chance of coming out a winner.

Official American sympathy lies with the Uighurs, seen as the victims of the long tentacles of Chinese power, exploited, impoverished and persecuted by Han Chinese. While the Uighur cause is no doubt deserving, one thing is certain: the U.S. is not going to go to war for them and is not going to finance militants among them to stage a revolt in the name of Uighur freedom. All the U.S. can do on a formal level is to issue statements calling for restraint, deploring acts of violence, and talking about the democratic rights of oppressed minorities. Those words carry no threat, no suggestion that the U.S. government can or will do anything to aid the Uighur people, most of whom are confined to their own “Xinjiang autonomous region” spanning a vast and mountainous region in the northwest, far from Beijing, but next to Tibet and northeastern India.

Historically, eight, nine, 10 or so centuries ago, the Uighur Empire may have existed as an amorphous entity. Some Uighur people undoubtedly dream of the establishment of a nation to be known as Uighurstan – another in the “stan” countries and regions and ethnic groupings that run across the middle and southern edges of Asia and the Middle East. The fact is, however, there is no way the U.S. can contemplate any form of intervention that would immediately be seen in Beijing as gross interference in China’s internal affairs and have a ruinous effect on U.S.-Chinese relations.

Chinese authorities are already upset by the sympathy expressed in the United States for the rights of Tibetans. At least Americans have heard of Tibet. You would have great difficulty finding anyone on the streets of any American city who had a clue about the Uighurs.

If the United States is not openly on the side of the Uighurs, there are plenty of signs of substantive support. One that's getting some publicity in Washington is the role of the National Endowment for Democracy, which calls itself a private non-governmental organization but dispenses grants with money appropriated by the U.S. Congress. As the Uighur rioting simmered on, the NED was revealed to be dispensing more than \$200,000 a year to support the World Uighur Congress, blamed for triggering the unrest. A Uighur woman, Rebiya Kadeer, president of the Uighur Congress, now living in suburban Washington after having made it to the U.S. with a powerful assist from the State Department several years ago,

with all that is good and right in an often hostile world.

Whether the Uighurs, if they ever gained control over their own country, would abide by such high-sounding principles is another matter. Regimes and movements supported enthusiastically by Americans have a long history of falling back on tried-and-true dictatorial techniques after gaining power. The demise of Soviet rule undoubtedly brought about democracy, to varying degrees, in Eastern Europe, but some of the former Soviet republics are as repressive as any other regimes on earth. Any number of Latin American dictators rose to power with the backing of Washington. Communists and socialists and leftists may be no better, but the American record is so uneven, to say the least, as to discourage much enthusiasm for overseas personalities with access to money and the media.

Carl Gershman, president of the National Endowment for Democracy, notes that the NED grant to Kadeer, and others to recipients around the world, including a number in



has been the recipient of much of the largesse.

The money, by any standards, is extremely small. The Chinese, however, find it easy to blame Kadeer, and her organization, for outbreaks that may have more to do with heavy-handed tactics of local authorities. As Kadeer put it, "The Chinese government is well-known for encouraging a nationalistic streak among Han Chinese as it seeks to replace the bankrupt communist ideology it used to promote." The Chinese tend to view Uighur activists overseas as "terrorists" and demanded, unsuccessfully, that the U.S. extradite to China four Uighurs held in the U.S. prison in Guantanamo along with others implicated in support for Al Qaeda and the 9/11 attacks on the World Trade Center and the Pentagon. Uighur activists overseas call for freedom of expression and freedom to organize democratically and politically – words that appeal to Americans who equate American-style democracy

South Korea, are far too small to be responsible for a popular uprising. He also makes much of the "transparency" of the NED, arguing that all that it does is announced and out in the open. The last thing he wants is for the NED to give the impression that it's a front for the CIA or any other U.S. government agency. Those who receive grants from the NED make no secret about them either. At least two groups in Seoul, one that aids North Korean refugees, another that broadcasts two hours a day of news and views into North Korea, have said that the NED is the source of some of their funding. The NED lists more than a dozen Korean groups that it plies with money, most of them involved with aiding North Korean defectors or getting information into North Korea mainly via the airwaves.

As NED grants in Korea indicate, their role is that of a defender of democratic principles, an influence in the spread



of freedom as interpreted by Americans. “In western China, we support minority rights,” Gershman remarked when questioned after a talk that focused mainly on North Korea. “The work is always peaceful. It has to do with the rights of people.” Gershman spoke with conviction, but nice words can hardly cover up the sense that he and his colleagues are engaged in a high-risk, controversial mission in a world in which anti-Americanism can flare up anywhere, often unexpectedly. Unknown to most Americans, the NED plays an extraordinary role as an agent for democracy and freedom, American-style.

It’s very easy to accuse the NED, and the government whose money it is dispensing, of having a destabilizing influence, of exercising undue pressure, of intervening in the politics of sovereign nations. If the causes that the NED espouses seem worthy, imagine how terrible they might become if the NED falls into the wrong hands, if unscrupulous people take it over and try to manipulate it for their own purposes. It’s easy to imagine the U.S., in a showdown almost anywhere, seeing the NED as an arm for policymakers to spread their own views on a much broader scale. For that matter, what’s to stop some future American government from turning the NED into an intelligence-gathering organization? For now, however, the question is how is China likely to view NED support for a Uighur organization that actively opposes Chinese

peninsula caught between these lumbering national giants.

Gershman pooch-poochs the suggestion that the National Endowment for Democracy might be responsible for China’s hardening of its policy on North Korea. “China is not going to be influenced by a few grants that NED makes,” he remarked. “China needs to be a player” – playing the role of influencing North Korea to abandon an increasingly confrontational policy. It might seem unfair to suggest maybe the U.S. Congress should stop funding the NED just because China objects to some of its activities. The problem remains, however, that the U.S. response to Uighur protests may have an adverse impact on U.S.-Chinese relations. Under the circumstances, China may be all the more reluctant to talk some sense into the North Koreans at a time when Chinese pressure is needed. Ultimately, the Uighur cause could be another issue in deepening differences between the United States and China, in hardening the lines and turning back the progress in recent years that has opened up China to a degree that was unimaginable in the first couple of decades after Mao’s victory.

In fact, the NED may have vastly more influence than the size of its grants. The money it dispenses really may make a difference. NED grants might well be seen as seed money – relatively small allocations of wealth that make an explosive

For now, however, the question is how is China likely to view NED support for a Uighur organization that actively opposes Chinese policies and Chinese control.

policies and Chinese control. Doug Bandow of the Cato Institute in Washington sees officials in Beijing as responding by lack of cooperation with the U.S. on restraining North Korea. Bandow’s view is in keeping with the libertarian outlook of the Cato Institute, which calls for a hands-off approach in American commitments overseas.

Upset that the United States might play a role, however small, on behalf of Uighurs, the Chinese already see North Korea as a buffer against the United States and Japan. Although China may not want North Korea to test missiles or explode nuclear devices, the Chinese may also be asking themselves what’s the point of pressuring North Korea to stop what it’s doing when the United States seems to be the enemy. U.S. support of the Uighur cause, on top of support of Tibetan dissidents, may be all the more disturbing to China in view of the large ethnic Korean minority across the Tumen River in Manchuria. Might ethnic Koreans some day rebel against rule from Beijing? And would the United States stand by them, possibly extending them funds? Probably one of the worst mistakes the NED could make would be to provide funds for ethnic Koreans for a much greater voice in their own region of northeastern China.

China already is under heavy pressure to view defectors from North Korea as true refugees rather than round them up periodically and send them back to face torture, beatings, imprisonment or even execution in the North. Chinese sensitivity on this issue is easy to understand. If North Korea collapses, hundreds of thousands, possibly millions, of North Koreans would flee across the Yalu and Tumen Rivers into China, creating a restive underclass that would be very difficult to control. Any sign of U.S. intervention in Manchuria is sure to drive China closer to North Korea. The result could be a Chinese refusal to enforce the resolution adopted by the UN Security Council after North Korea’s nuclear test on May 25. China could ignore, or partly ignore, sanctions imposed against North Korean firms that stop them from exporting missiles, nukes and their components. The gulf between China and the United States would deepen with the Korean

difference. So Gershman seems uncertain whether to deny such an outlandish notion – or to take a bow. Either way, he’s sticking to his guns. “You have to support human rights and democracy,” he said. “You wait for the moment.” As for the Uighurs, “We’re close to our Uighur friends.” Did none of them give a clue as to the unrest that was about to erupt, the inspiration financed, in a small but significant part, by the NED? “I did not, said Gershman, “have any sense of what was developing.”

It would not be fair to blame Gershman, or his organization, for lack of perception. They do not gather intelligence. They do not have field offices or their own people reporting in detail on the organizations that are the beneficiaries of their generosity. It would be interesting to know, though, how the NED selects or approves applications for grants. Do organizations file forms with letters of reference requesting funds? Or does the NED seek out worthy recipients? And what kind of debate goes on in the American Congress over the NED? What are the relationships between the NED and the U.S. State Department and the White House and other influential U.S. agencies?

These questions arise in the aftermath of bloody incidents in Xinjiang, a Chinese name to which many Uighurs object. They also are relevant in South Korea, considering the divisions in Korean society. Still, it’s hard to dispute the desire for groups or individuals to help North Korean refugees in their long and dangerous escapes from North Korea through China and to the South, and in their difficult adjustments to South Korean society. And it’s also hard to question the need to get information into North Korea, which may be the world’s most tightly sealed society. Those small radio stations that broadcast news and views from South to North Korea every day are undoubtedly helping to break down the barriers. The American role, via the National Endowment for Democracy, raises issues that are sure to arouse controversy while the United States is bogged down in far worse turmoil from Israel and Palestine, through Iraq and Iran to Afghanistan and Pakistan.



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CYBER ATTACK

All Bark, No Bite

BY ZACH BARDON

It was a perfect storm of drama. On the very day when the most powerful nation on earth celebrated its foundations, an anonymous, mysterious force began to attack it and its Asian ally through the Internet, the very communications network which it had invented. The aggressor had vast resources, was completely unidentifiable, and attacked over 30 different targets with a power that had not yet been seen. Computers from 16 different countries were involved in the massive storm of nonsense data, disrupting critical operations of the public-facing web pages of such entities as 20-odd government agencies, four banks, Amazon.com, the Korean Grand National Party, and U.S. Auctions Live. Wait, U.S. Auctions Live? Who are they?

That is the beginning of the highlight of what actually happened in the first half of July – nothing much really. In order to put this into further perspective, the web site of the United States Department of Transportation was down for several days. Yes, it's true, for almost an entire week no one was able to read the announcement of their 2010 fiscal year budget or access the Fast Lane, the official blog of the U.S. Secretary of Transportation. The undiluted fury of the cyber attackers knew no mercy.

Dramatic Appeal

But the appeal of the story was too great to be ignored. The essence of the attack, a Distributed Denial of Service attack, was to cause millions of computer systems to send information to just a few web servers, causing them to fail from the overload. In solidarity with the cyber attackers, newspapers, magazines and online news sites also began

broadcasting thousands of articles of information about one subject, causing it to overwhelm the good sense and critical thinking skills of almost all of their audience. Panic reigned – a digital, word-based panic – but a panic nevertheless.

Not only was the media swept up in the attack, but national leaders were as well. The Korean National Intelligence Service presented a report to the Korean parliament quickly blaming North Korea or North Korean sympathizers for the attack. The government took swift steps to accelerate the implementation of an Information Security Command. Now it will be launched on January 1, 2010, two years earlier than planned. In the United States, Senator Kit Bond, vice chairman of the Senate Select Committee on Intelligence, said that a cyber attack could be more devastating than a nuclear bomb. He enumerated many different ways that a cyber attack could disrupt power, water and other civil services. Rep. Peter Hoekstra, of the House Intelligence Committee, said the U.S. should conduct a “show of force or strength” against North Korea for its supposed attack on web sites. He said, “Whether it is a counterattack on cyber, whether it is, you know, more international sanctions ... but it is time for America and South Korea, Japan and others to stand up to North Korea, or the next time ... they will go in and shut down a banking system or they will manipulate financial data or they will manipulate the electrical grid, either here or in South Korea. Or they will try to, and they may miscalculate, and people could be killed.”

In this way, hundreds of millions of people who might not have heard of the cyber attack were able to share in the panic and vague sense of insecurity it caused.

What Actually Happened

Taking the words of Representative Hoekstra at face value, the U.S. and South Korea were both in great danger in July. But thinking back to those fateful days of imminent danger, one is hard-pressed to remember anything dangerous actually happening. So, what actually happened?

On July 4, an initial slowness or unavailability of sites such as www.president.go.kr, mail.naver.com and www.faa.gov began to look suspicious, and operators of those sites reported that they were receiving an enormous spike in nonsense Internet traffic, up to an extremely unusual 20 to 40 gigabytes per second. This was the beginning of a long-lasting and resilient distributed denial-of-service (DDoS) attack on 13 Korea-based and 23 U.S.-based web sites.

A DDoS attack is an attack performed by what can be euphemistically called a massive choir of computers that



The mystery and fear surrounding hackers is almost always unwarranted

A DDoS attack is an attack performed by what can be euphemistically called a massive choir of computers that all send information requests to the same set of targets under the direction of a malicious person who has gained control of them using a computer virus.

all send information requests to the same set of targets under the direction of a malicious person who has gained control of them using a computer virus. This particular choir of computers, usually called a botnet, was unusually large and sent an unusually large amount of information to its targets, 10 times larger than the normal expected size of a DDoS attack. After some analysis, computer security experts have said that this botnet was created using a modification of the five-year-old MyDoom virus, which became famous in 2004 for being the fastest-spreading email virus in history. Computers located in 16 different countries were being used in the attack. The virus was distributed with a list of 36 web sites to attack, and the start date of July 4. There have been some rumors saying that the virus includes one more command – to completely overwrite the hard drives of the infected computers on July 10, destroying the botnet and leaving no trace behind, but that has not yet been confirmed.

Popular web portals and banks in Korea were targeted, causing people to immediately take notice. The hit list of the virus itself included both Korean and U.S. web sites. Sites in Korea included a cornucopia of Nonghyup Bank, KEB Bank, Shinhan Bank, Naver Blogs, Naver Mail, Auction.co.kr, the Chosun Ilbo newspaper, the Grand National Party, the National Assembly, the Ministry of National Defense, the Ministry of Foreign Affairs and Trade, the Blue House and U.S. Forces Korea.

In the U.S., there were more sites affected. Private sector web sites included Amazon.com, Yahoo, Yahoo Finance,

NASDAQ, U.S. Bank, the New York Stock Exchange, The Washington Post, U.S. Auctions Live, MarketWatch and Site-by-Site. Some of these web sites are still offline, and one, U.S. Auctions Live, has been dropped by its Internet Service Provider because of the attack, and had to move to another host. There was also a laundry list of U.S. government departments affected: the U.S. Department of State, Department of Homeland Security, Department of Transportation, Federal Aviation Administration, Federal Trade Commission, National Security Agency, U.S. Treasury, Voice of America radio, the White House and the U.S. Department of Defense. A few of the sites were offline for several days, but it was reported that the White House web site was able to quickly filter out the offending traffic and maintain its online presence without interruption.

Who Did It?

Despite Korea's National Intelligence Service pointing the finger at North Korea for the attack, there has been extreme difficulty in locating the origin of the attack. This is because of the nature of the Internet – it is a vast network of computers each of which may or may not belong to, or be controlled by, any number of people.

The first step in finding out who perpetrated the attack is to find out which computers were used in the attack. After some extensive sniffing around, leading security researchers found that the computers used in the cyber at-



tacks were located all over the world, mostly in the United States, South Korea, China and Japan. The computers were actually composed of eight different botnets as well. And while it was not possible to count the number of computers actually involved, researchers guessed that there were approximately 166,000 computers involved in the attacks. The infected computers were instructed to randomly contact one of eight control servers to receive instructions every three minutes. Researchers were able to gain control over two of the servers and discovered that there was yet another master server located in the UK.

Does this mean that the U.S. attacked itself? That Britain is getting revenge on American neo-colonialism in a mad, desperate envy? No, not at all. In fact, the control computer's location is irrelevant, because the hacker or hackers who perpetrated the attack could have connected to the control computer from any location, or even several different locations.

In fact, on July 14, Hanoi-based security firm Bkis Security said that they had further traced connections to the control computer to Miami. The connections came from a server owned by Digital Latin America, a Buenos-Aires-based company that provides technical services to digital content providers. Before one begins to have visions of Brazilian hackers taking the world by storm, the company is cooperating fully with authorities to find out from where the connection originated. It is likely that the hacker or hackers used an extremely long chain of connections in order to hide themselves from authorities. Uncovering the actual culprit may take months, or even years.

Consequences

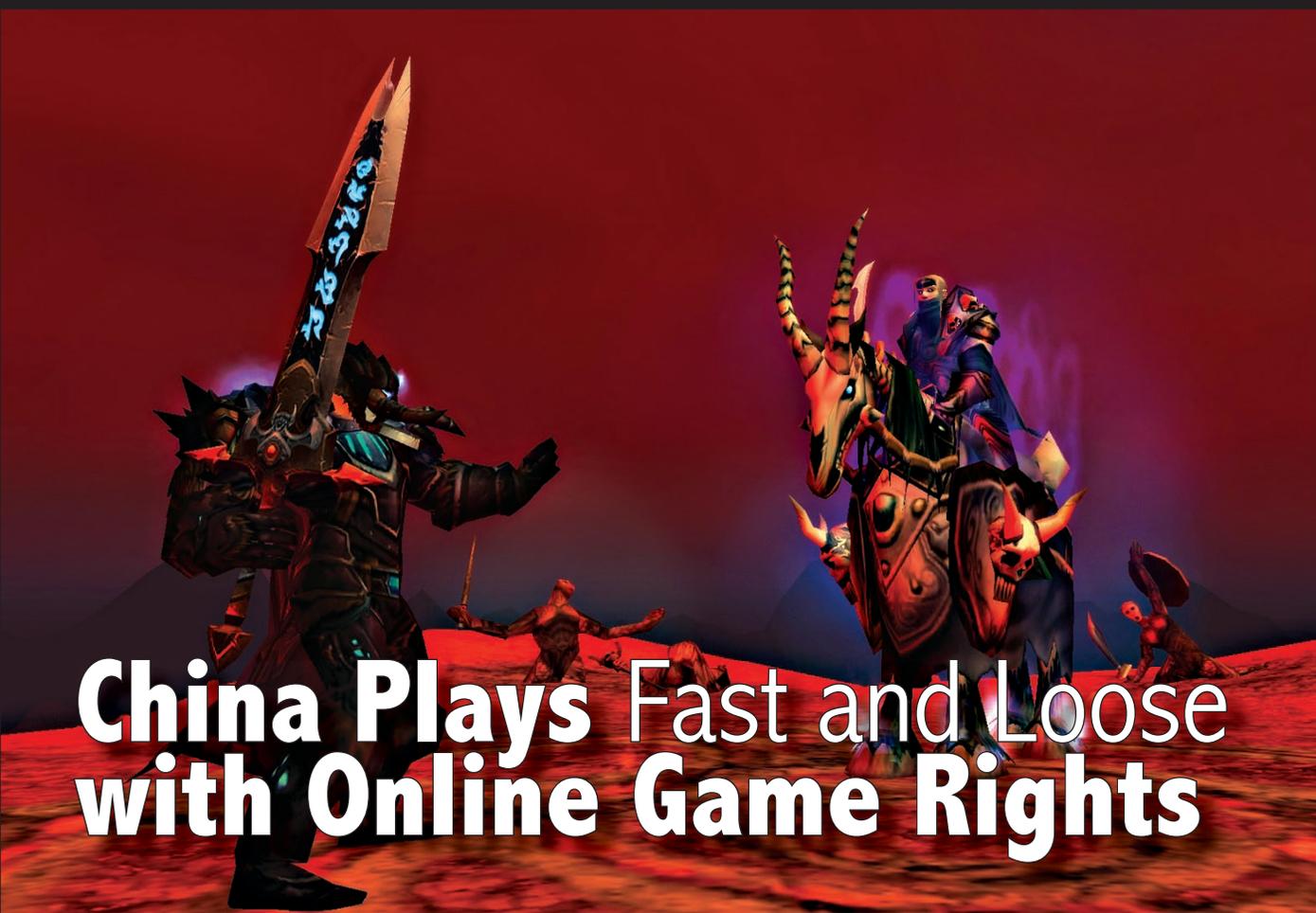
The long-term consequences of this most massive DDoS attack in world history are nothing. Also, the short-term consequences are pretty mild as well. In fact, the most important aspect of the attack is to consider what it did not do.

Despite all of the governmental organizations attacked, the most the attack did was publicly embarrass them a little. The web sites involved are not critical to the day-to-day functions of the governmental departments, so their operations have not been affected; only their pride has been damaged. No data was lost or stolen, no havoc was wrought.

The bank web sites were a little more important to the respective banks – bank customers would have been inconvenienced and could not have done online banking during the disruption. The financial sites probably lost advertising revenue, but nothing too serious. Auction.co.kr and Amazon.com might have lost money by being inaccessible to their customers, and as such were potentially the hardest hit. But this is all temporary. The attack was not designed to gain anything or destroy anything permanently - it was only designed to create a media stir and make a statement of some sort, which it did most admirably.

So, despite the perfect storm of drama, despite the media stir and despite the desperate rhetoric of lawmakers on both sides of the Pacific, nothing really happened except a political demonstration. One man, or a small group, made their voices heard extremely loud and clear – they do not like South Korea, the U.S., banks, the stock market or online commerce. If you simply acknowledge that this is the case, and that there are people out there with such an opinion, then the attack has wreaked as much havoc as it can possibly do, and the cyber-terrorists have already won. But this time, I think we can all live with that.

The screenshot shows the homepage of the United States Department of Transportation website. At the top left is the DOT logo. To its right is the text "UNITED STATES DEPARTMENT OF TRANSPORTATION". Further right is a "Quick Search" box with a "GO!" button. The main content area features a featured article titled "Voices of the Recovery Act: Alison Barber". The article text reads: "When Alison Barber graduated from Colorado State University this year with a degree in Construction Management, she was unsure she would find work in difficult times for the construction industry. Today, Ms. Barber is employed by Castle Rock Construction on a Recovery Act-funded road project in Denver, CO." Below the text is a "Watch Video" button and "Prev" and "Next" navigation links. To the right of the article is a photograph of Alison Barber, a woman wearing a red hard hat and a yellow safety vest, standing in front of a green sign that says "PROJECT FUNDED BY THE American Recovery and Reinvestment Act" and "GOVERNOR BILL RITTER". Below the main content are several sections: "Highlights" with a list of items including "C.A.R.S. - Car Allowance Rebate System", "FY2010 Budget", "Progress Report: Department of Transportation", and "Vice President Biden, Secretary LaHood Meet with Governors on Future of U.S. High-Speed Rail"; "Special Features" with a dropdown menu for "DOT Operating Administrations & Offices" and buttons for "Fast Lane Blog", "DOT Recovery Transportation Investment Generating Economic Recovery", "FAQs Frequently Asked Questions", and "SAFETY Safety Information"; and "Top Requests" with a list item "Motor carrier companies - get a DOT number". At the bottom of the screenshot, a banner reads "The whole world was without this web site for at least four whole days".



China Plays Fast and Loose with Online Game Rights

The Death Knight class (left) in World of Warcraft has been labeled explicit by China's GAPP department, and prevents the Wrath of the Lich King expansion from being released in China.

Gaming headlines were buzzing in Seoul in July, and it wasn't good for China. Webzen, the Korea-based publisher of the mid-size online game Mu, was a little upset with its Chinese partner company They9, which had been distributing Mu in China. They9 announced that it will reveal its newest game, Mu X, which it has been claiming is Mu's sequel. The names are also very similar in Chinese. The Chinese name of Mu X is Ki Juk Jun Ki (The History of Miracles), while Mu's Chinese name is Ki Juk (Miracle). But nobody bothered to tell Webzen that their game had a sequel. This puts Webzen in a very bad position, because it is also involved with They9 in distributing its other online game, Sun Online.

When asked about the development, a Webzen official said, "We haven't seen the game yet, so it is too early to tell whether Mu X is a copy or not." But all will be revealed when They9 unveils Mu X at the China Joy 2009 computer games fair at the end of July. It's reasonable to say that there has been a great breach of trust and intellectual property

damage simply by the name of the new game, which implies the newer, cooler sequel to an already-popular title. They9 has reportedly been working on Mu X for the past two years in secret.

The success of Mu was a break for Webzen, and has given the company about US\$40 million in revenue over the past few years since its launch. The game was also responsible for the rise of They9 in the Chinese market.

Disturbing Trend

This is not the only story of game rip-offs to come out of China in recent months, or out of They9. They9 has also been the Chinese operator of World of Warcraft, Blizzard Entertainment's eminently successful online game. However, Blizzard recently cut ties with the company and began doing business with its rival, NetEase. Blizzard has also given NetEase the rights to operate the upcoming StarCraft II title. They9 has taken advantage of the situation to market another game called World of Fight. So far, not many details have been released, but at its launch, the website of World of Fight was almost identical to the Chinese World of Warcraft site. The domain names are only one character different as well, with World of Warcraft being www.wowchina.com and World of Fight being www.wofchina.com.

Older Asian game aficionados might be reminded of a third story, the story of Legend of Mir 2. After its Chinese launch in 2001, it became the #1 most popular online game in the country. Actoz Soft, based in South Korea, was the developer, and originally worked with Chinese-based Shanda Interactive. However, Actoz terminated its relationship with



Mu is a somewhat dated-looking game that still commands a significant presence in the Chinese online gaming market.

Legend of Mir 2 was a 3D isometric online game popular in 2002.

Intellectual property laws are a new thing in China, having only been introduced in 1979.

Shanda in 2003, and shortly thereafter Shanda launched a suspiciously familiar-looking online game called World of Legend.

Significance

China has a market of over 1 billion people, and that has any company salivating at the prospect of distributing to even a tiny fraction of them. That's why every online game company is interested in expanding to the Chinese market. However, the intellectual property laws in China are almost nonexistent, and the strict requirements of online games in the country are difficult to adhere to.

All online games in China must be first approved by the government. This is something that might be difficult to grasp for those of us living in democracies, but the online habits of Chinese citizens are very tightly controlled. Blizzard's transfer of rights to distribute World of Warcraft from They to NetEase has caused them to go up against the General Admission of Press and Publication (GAPP) again, the bureaucracy which was originally asked to approve World of Warcraft. It did, after asking WoW China to make a few significant changes to the game.

What things did the GAPP object to? Was it the ability for the Forsaken to cannibalize corpses to regain health? Was it the needless, endless slaughter of low-level characters in Stranglethorn Vale? Was it the all-too-sensual movements of Night Elf women as they bounced around the world killing things? No, it was exposed bones. World of Warcraft, cartoony over-the-top style and all, was barred and is barred again from 1 billion people because it included too many exposed bones, up to and including fully exposed skeletons walking around blatantly flashing their pelvis at everyone. The company has had to introduce alternative models of popular player character styles and monsters in order to comply with China's no-bones policy. Also, the Chinese government has a

problem with the latest World of Warcraft expansion pack, titled Wrath of the Lich King. Death-related topics are not welcomed by GAPP, and the entire expansion has not been approved for distribution yet.

Intellectual property laws are a new thing in China, having only been introduced in 1979. While technically they are enforced, the reputation of Chinese companies regarding intellectual property is still not notable. These latest cases of Chinese companies distributing another company's game and using their access to the game to create one of their own, is further damaging to the country's reputation, and lessens the chance that foreign game developers will do business in China in the future.

Or it would be, if it wasn't for the enormous market that China represents. With over 1.2 billion people, the country is brimming with individuals wanting to buy things. And while conservative estimates put 800 million or so into extreme poverty, that still leaves 400 million people who are ready and willing to buy the latest gadgets. And online games are a significant force in the Chinese market.

Perhaps online games are too significant. At least signs point to the Chinese government thinking so. Aside from the fact that China must approve all online game offerings, it also treats online game addiction very seriously. The government has set up measures to restrict computer use of children under 18 years old, and has reportedly reduced the number of minors playing online games from 15% of the total online gaming population to a mere 7%. However, there are still some places where the government will not go. The government recently put a stop to an online gaming addiction treatment center that was administering electric shocks to punish underage children who were undergoing treatment for online game addictions.

MOBILE PHONES: CHANGING LIVES ACROSS ASIA

BY ANURADHA SHUKLA

Mobile phones are not just communication devices for Asians who now the handsets as a revolutionary product that has enabled them to grow economically. This is a feeling that is experienced by not just people who work in Asian metropolitan areas, but also by those who live in the region's rural areas. The latest mobile phone models provide features that make the device easy to use. This coupled with advanced technology that provides robust services at reasonable rates has made mobile phones accessible to people in every economic sphere throughout the Asian continent.

People living in Asia have certainly benefitted a lot by the introduction of cell phones. Mobile phones are a quick and cost effective communication medium. This has brought speed in communications, something that was not present in this region prior to the arrival of the cell phone. Before mobile phones came into such widespread usage, Asians limited themselves to land lines, sending postal letters or sending a wire or a telegram. Though these were effective communication methods, none gave the kind of comfort experienced as seen in the use of mobile phones.

With the arrival of mobile phones, people all across Asia could communicate with just a touch of a button to someone else located in a far off place within their own country. The advantage of hearing the other person's voice is a definite plus in effective communication. While this is the general benefit seen in the use of mobile phones, there is also an economic benefit that has come about by the use of mobile phones in the office. It is much easier to call a support of-

ficer or a banking person. You can reach them through their mobile phone number. In the office itself, meetings can be held through a mobile phone conferencing facility, including video conferencing. Applications such as Skype can be installed and used in smartphones for quick and easy communication.

The widespread availability of mobile phones in Asia means a device is available to fit every budget. It is possible for someone owning a small shop to use a cell phone and it is no longer limited to high-end customers such as a company CEO. The affordability has ensured that the communication facilities through mobile phone are available throughout the region.

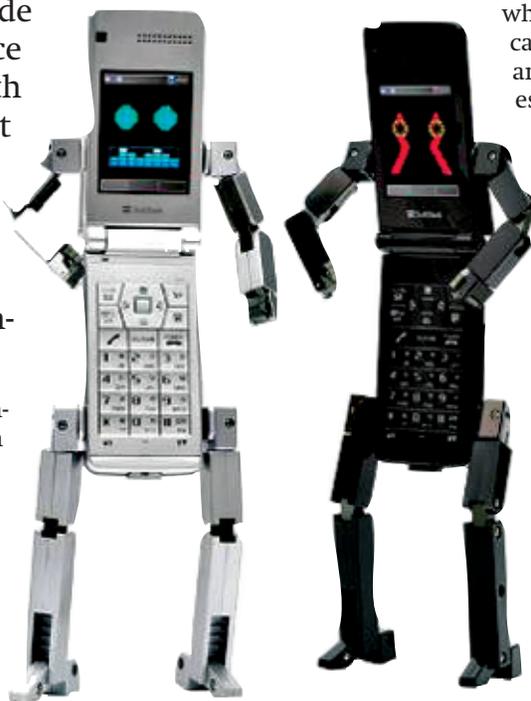
Mobile phones have brought about cost effective communication methods. With the introduction of prepaid card services it is possible for people to add only what they actually need and afford. The calling rates in Asia are quite nominal and a small recharge can give the necessary amount to make just those absolutely necessary phone calls. This enables people to use their cell phone only for specific purposes and not all the time. It is also possible to restrict cell phone usage to receiving calls only and this feature enables people to have even more controlled cell phone usage.

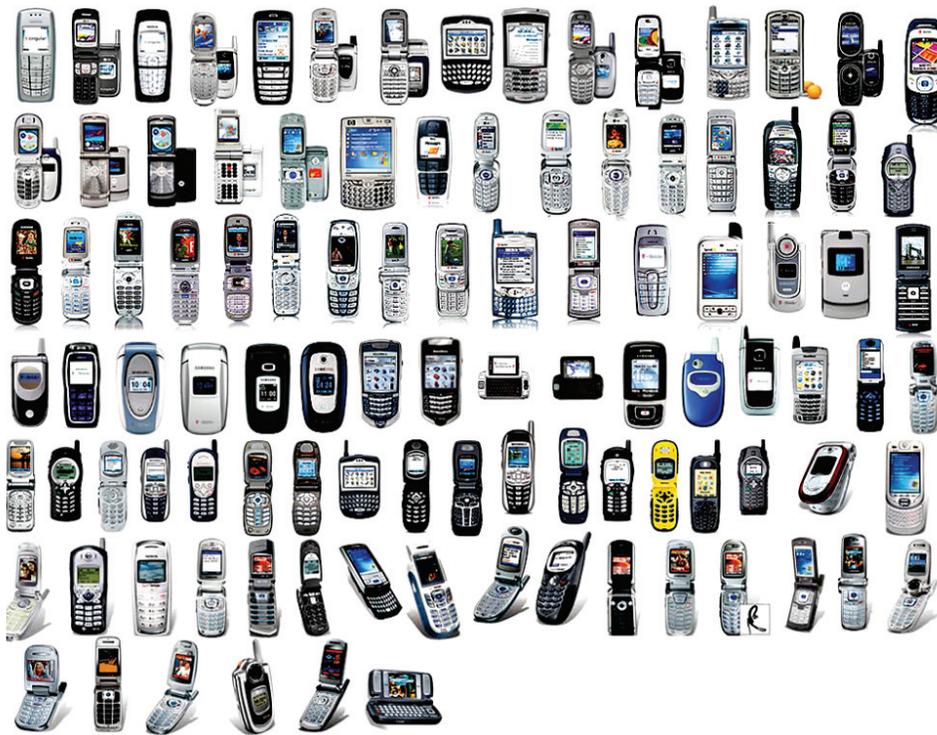
Mobile phones have brought the facility of quick communication through SMS. Prior to the use of mobile phones, people across Asia had to send a telegram or a post card when they wanted to send small queries or perhaps even enter a contest. Now all this is done through a quick SMS that is widely used now as an effective advertisement method by many organizations and businesses across Asia. Since people typically use their mobile phones every day, the advertiser can be sure that each

advertisement message will be read. A short, brief description alongside the contact address is enough for people to get their small business going. SMS costs are minimal, but the effect is far reaching.

Mobile Phone Usage in India

In 2007, it was noted in the essay "Meanwhile: India's cell phone revolution" in the Op-Ed section of the International Herald Tribune by Shashi Tharoor that nearly 7 million Indians subscribed to mobile phones each month. This was a record at that time for mobile phone service subscription. The author notes the many differing situations in India in





which mobile phones are being used. He mentions a Sadhu looking every bit just that – a Sadhu, but in his hand is a personal mobile phone, which completely transforms the look and effect. This is indeed an overall picture of the kind of transformation that is happening in Asia as a result of using mobile phones.

Another essay titled “For the rural poor, cell phones come calling,” by Heather Timmons published on May 6, 2007, describes the dramatic increase in cell phone usage in India. The author goes on to explain that there are 6 million new mobile phone customers every month. In major Indian cities as well as smaller towns there is an extensive use of mobile phone devices and, as a result, there is stiff competition amongst mobile phone manufacturers.

It has to be noted that most of the Indian population lives in rural areas. The widespread use of mobile phones started coming to villages through initiatives taken to spread awareness about mobile phone usage and its benefits in those areas. One such initiative was taken by cell phone manufacturer Nokia. Nokia sent caravan-like vans to rural villages across the country and they explained to people about the importance of using mobile phones. The vans stopped at various vantage points in a village area and when enough people gathered close to it, Nokia representatives would explain to them how the mobile phone worked. They showed how uniquely helpful it can be in their everyday lives. According to Suresh Sundaram, Nokia’s national retail marketing manager in India, the aim behind Nokia’s initiative was to make people aware of what mobile phones are and how they can be useful in rural life.

Mobile Phones: Changing Lives Across Asia

In Asia mobile phones are also used in educational institutions for various purposes. According to a recent report published on the Digital Review of the Asia Pacific, new communication technologies are increasingly being used in the field of education. What’s more, this percentage has risen rapidly over the past few years.

For instance, the schools and colleges in the Philippines are making use of the SMS service and cell phones for imparting interactive learning to the students. Mobile phone usage is not restricted to just this, it is also used to inform students of any changes in schedules for classes or exami-

nations, deciding deadlines for projects, promoting the use of library resources, news and much more.

Additionally and very interestingly, mobile phones are largely used by students for campaigning and voting in student elections, advertise social activities that are currently taking place, along with sharing information about job fairs and discounts on books being offered by different publishers. Mobile phones are also frequently being used by college administrations for their vital communication needs. This medium is used for circulating emergency information such as the closing of the institute due to bad weather conditions to students across the country. It is also a fair medium for coordinating admission procedures, advertising various new courses introduced in the current session, circulating information about grants and announcing scholarships.

Not only are the mobile phones being used for performing general tasks as specified above, but they are also the center stage for all eLearning development and research. According to a research carried out by the industry working in the information and communication technologies domain, all developing countries including India, Indonesia, Mongolia and the Philippines are enhancing the scope of ICT-related policy development, planning, research and implementation.

According to the findings of the research, though a large number of people in the developing countries have computers to work on, they don’t have access to the Internet. As a result, distance education is not widespread in these areas. However, with mobile phone usage be-

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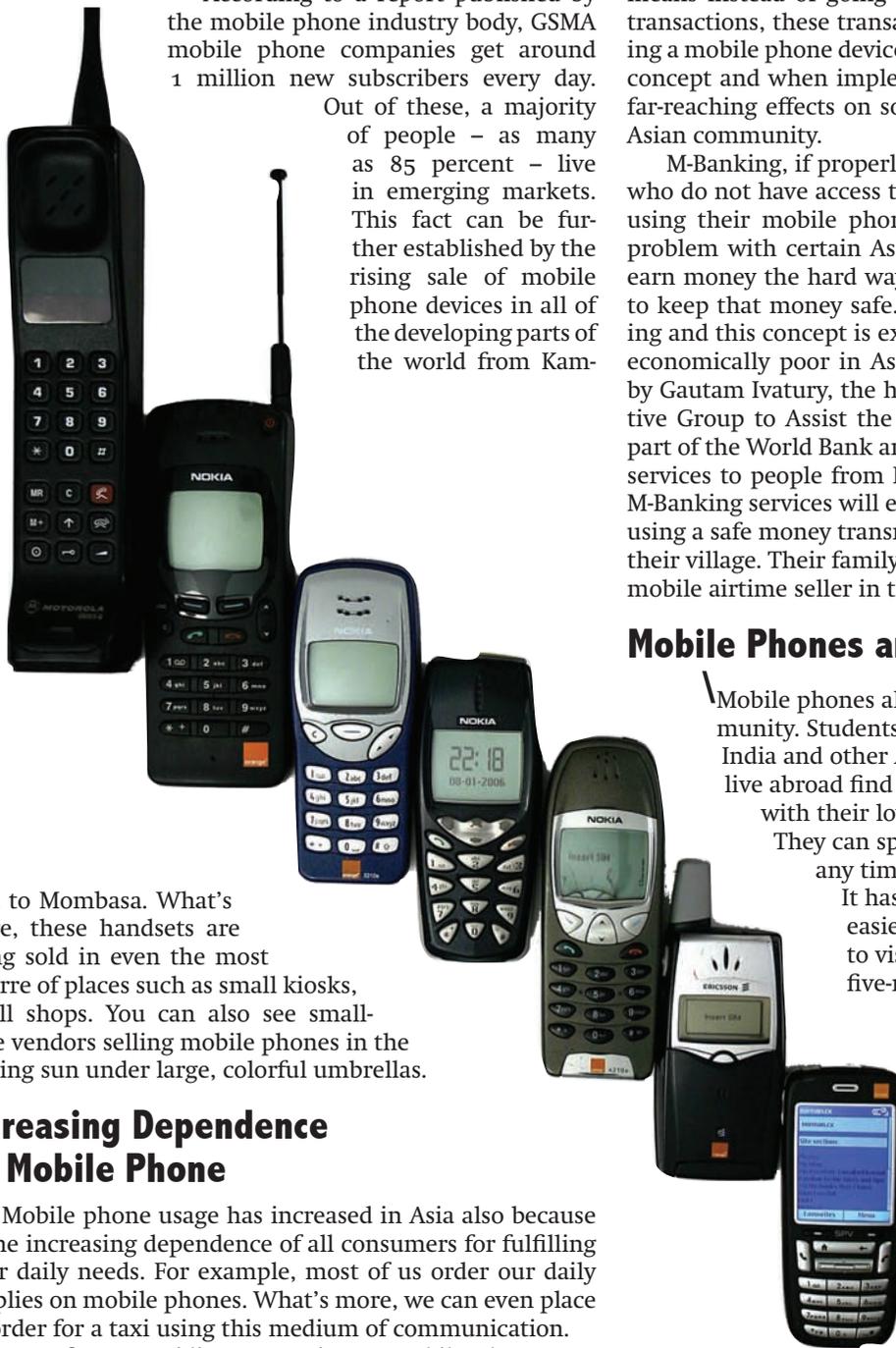


ing widespread and affordable, it can be used as a potential medium for Internet research too.

One of the main reasons why the mobile phone is so popular in Asia is its low cost. It is easy to find mobile phones at very low prices with some of the most innovative devices coming from the Chinese market. The low prices of these devices means more people can afford to buy a mobile phone. Some say that these days even the low-income people in Indian villages have mobile phones, which they use to connect with their friends, relatives and family. Similarly around 100 million Chinese migrant workers use mobile phones to connect to their families left behind in rural areas. This helps them stay in touch with their families for a low cost. They can now use mobile phones to exchange information instead of travelling long distances.

According to a report published by the mobile phone industry body, GSMA mobile phone companies get around 1 million new subscribers every day.

Out of these, a majority of people – as many as 85 percent – live in emerging markets. This fact can be further established by the rising sale of mobile phone devices in all of the developing parts of the world from Kam-



pala to Mombasa. What's more, these handsets are being sold in even the most bizarre of places such as small kiosks, small shops. You can also see small-time vendors selling mobile phones in the blazing sun under large, colorful umbrellas.

Increasing Dependence on Mobile Phone

Mobile phone usage has increased in Asia also because of the increasing dependence of all consumers for fulfilling their daily needs. For example, most of us order our daily supplies on mobile phones. What's more, we can even place an order for a taxi using this medium of communication.

Apart from providing convenience, mobile phones are of enormous benefit to the entrepreneur. Once again, it is not just big businesses that are benefitting from this technology; the small level businesses are also leveraging the mobile phones to stay connected and address their customers' needs at all times. An interesting example of business booming through the use of mobile phones is the Village

Phone Programme in Bangladesh. This program enables women to earn money by renting mobile phones to people who need it in their own villages. The result of this kind of innovative use of cell phone has actually turned ordinary people into micro-traders.

As we view the use of mobile phones in Asia today, we can only see that more and more people will be making use of mobile phones in the future. This means professionals, farmers, entrepreneurs, people in the entertainment industry, politicians and many more people from different walks of life will depend on these devices. Industry experts also say that in the future, we will see more and more different types of usages coming into effect through advanced mobile phone applications. A step in this direction has already been implemented by the introduction of M-Banking.

M-Banking is banking through mobile phones. This means instead of going to the bank to carry out banking transactions, these transactions are carried out through using a mobile phone device account. It's quite a revolutionary concept and when implemented in large scale, it can have far-reaching effects on some of the poorest sections of the Asian community.

M-Banking, if properly implemented, will enable Asians who do not have access to financial services to send money using their mobile phones to whomever they want. The problem with certain Asian communities is that they earn money the hard way, but they do not have the means to keep that money safe. All this can change with M-Banking and this concept is expected to change the status of the economically poor in Asia. It is currently being promoted by Gautam Ivatury, the head of technology at the Consultative Group to Assist the Poor (CGAP). This organization is part of the World Bank and it seeks to bring M-Banking trial services to people from Mongolia to Pakistan. More use of M-Banking services will enable poor workers to send money using a safe money transmit mechanism to their families in their village. Their family members can redeem cash from a mobile airtime seller in their areas whenever they want.

Mobile Phones and the

Mobile phones also impact the non-resident community. Students and working professionals from India and other Asian countries who work and live abroad find it much easier to communicate with their loved ones through mobile phones.

They can speak to their family members at any time of the day using their phones.

It has made accessibility a whole lot easier than before when people had to visit calling booths to make a short five-minute phone call to their family member working in a far away geographic destination.

Earlier, the call charges in such situations were really high, but now they have come down to a minimal rate, wherein everyone is able to communicate affordably. Mobile phones have made long-distance communication much easier and quicker in Asia. Prior to the advent of mobile phones, long distance communication was costly

and time consuming, as it could be done only through land phones that were specifically activated to carry out such calls. Thanks to mobile phones, people can instantly connect with each other from any destination across the globe.



DOMESTIC BPO IN INDIA: TRENDS AND CHALLENGES

BY RAJANI BABURAJAN

A new study from Ernst & Young casts the light on different aspects of domestic business process outsourcing (BPO). The study reveals that domestic BPO outpaced the overall BPO services market by growing at a compounded annual rate (CAGR) of 50 percent over the last five years.

The research agency predicts that the domestic BPO market will reach \$6 billion in size by FY2012, showing a CAGR of 38 percent from the current \$1.6 billion. Customer Interactive Services (CIS) constitutes over 70 percent of domestic BPO revenues.

The growth is driven by different factors, the most important among them being rising customer expectations and the global aspirations demonstrated by domestic companies. Cost benefit alone does not drive the domestic BPO market, says the report. "While government organizations such as BSNL and the railways are primarily driven by cost benefits, private giants such as Bharti and Vodafone are primarily driven by value generation and quality."

According to a buyer company that participated in the survey, "BPO firms could help standardize and automate processes at Indian companies and achieve productivity gains of up to 35 percent over 18 to 24 months." The competitive landscape of the Indian industries has strained the companies' operational models, so companies are turning to vendors who can help them overcome some of the challenges associated with fast growth.

According to Milan Sheth, partner in technology practice at Ernst & Young, the Indian BPO segment has significantly matured in its export service delivery capability and footprint. "While India has strengthened its leadership as the preferred offshore destination, domestic BPO opportunity has witnessed a significant rise," Sheth added.

Mayur Taday, business head at Global ProServ Limited, has similar views. According to Taday, apart from the capex benefits, BPO services help their clients follow the best practices and maintain a uniformity/standard in their industry.

Another key benefit of outsourcing is that these companies can free themselves from the task of customer service or other non-core activities and invest their maximum resources for core business activities, resulting in more productivity apart from the cost benefits earned by outsourcing. Manpower management has been the great



challenge for big companies. The tremendous volume of work resulting from the rapidly increasing business activities demands a highly skilled and productive workforce. The current economic scenario is not favorable to even the big players in the market for recruitment of in-house staff for non-core activities. Thus, the economic slowdown has, to an extent, forced several companies to outsource part of their businesses to cost-efficient yet professional BPO companies.

Verticals in Domestic BPO

According to Ernst & Young's report, "Destination India: An Insight into the Domestic BPO Market," sectors like banking, financial services and insurance (BFSI), telecom, media, retail and the government verticals will drive the domestic BPO market in the coming years. These sectors are expected to grow at 20-30 percent, offering great business opportunities for the BPO companies.

Among these, telecom and BFSI are the early adopters of the BPO services. However, the BPO adoption pattern differs in each sector. For example, the telecom sector will see rapid initial adoption and will slow down over a period of time. On the other hand, the BFSI segment may show slower initial adoption, but will accelerate in the future. The study also found that certain sectors are reluctant to engage in outsourcing due to a lack of sector-specific expertise among the providers. The retail segment is one such segment that demands immediate attention. A retail client who participated in the survey opined, "Lack of dedicated focus on the domestic market by mature service providers, who are in search of higher returns from international markets, and the providers' focus on BFSI rather than on the retail sector, has resulted in low bandwidth and competencies to service retail clients."

Industry verticals like aviation, hospitality, healthcare and media are also seen as the emerging sectors and demand immediate focus from the industry. Mayur Taday thinks that platform-based BPO services will gain momentum in this deteriorating economy as they significantly reduce investments on different platforms and reduce de-

pendence on human capital. These services, which have been the focus around the back-office transaction processing contracts such as payroll, insurance claim management and workflow management, appeal to the small and medium enterprise (SME) segment. Currently, Infosys and TCS are the leading players in platform BPO services in India.

Opportunities for Non-Voice Based Services

Another major trend noticed by the agency is the evolution of non-voice based services and processes in HR, financing and accounting. This BPO segment is likely to pick up momentum in the coming years. The study, which says that the domestic BPO market would continue to be a voice-dominant one for the next three to four years, cites different reasons for the lack of development of non-voice services. "Buyer organizations currently have insufficient standardization and automation of processes. As a prerequisite to outsourcing non-voice activities, buyer organizations will need to standardize and automate their processes."

Outsourcing non-voice services, according to many companies, risks their firms' confidentiality and control over their business. Also, there is a great concern over the efficiency and expertise of the service providers. The domestic BPO market has to at first remove these roadblocks to proceed in this line.

International vs. Domestic Services

Export BPO services are more profitable to providers in the current scenario. The Ernst & Young report confirms that the annual revenue per full-time employee is 2.5 times in favor of export BPO. According to a leading domestic provider featured in the Ernst & Young research, the gross margin in handling international calls is about 35-40 percent, while it is around 25-30 percent for domestic calls. The key difference in net margins between the export and the domestic markets is the result of the tax exemption granted to global BPOs in India.

However, the domestic BPO industry is expected to increase in both size and volume, and net margins are anticipated to gradually increase to about 12.5 percent by 2012 from about 9 percent in 2008. Ernst & Young attributes several reasons for this change. Firstly, the cost involved in handling domestic calls is much lower than that of the international calls because connectivity charges are paid by the domestic clients. Margins from domestic services can be further increased by reducing capital investments. Domestic providers' shift of focus to Tier II and Tier III cities is viewed as the pragmatic approach to cost control. Considering the fact that about 74 percent of Indians reside in villages, the domestic BPOs can bring a revolution in employment oppor-



tunities for the rural educated mass. This would also help bridge the urban rural divide. Also, leveraging economies of scale and a modest increase in price will boost margins for domestic BPOs. The study concludes that steady state net income margins of 12.5 percent can be expected for most established players by 2012.

The Ernst & Young report throws light on several challenges faced by the industry. The report calls for immediate action from authorities. A green signal from the government is awaited in terms of tax benefits. Also, the government should focus more on rural infrastructure so that big players are motivated to move to these areas.

Domestic buyers face numerous hurdles. The idea of outsourcing is alien to the middle management of most companies, especially the PSUs. Since government-owned banks and insurance companies form a major part of the BFSI, and their unions are mostly against outsourcing, domestic BPOs cannot expect much from this segment. The BFSI segment has been the biggest opportunity for service providers in the Western markets.

Another impediment to outsourcing is the lack of a tech-

nology platform suitable for outsourcing. Any organization's decision to outsource its needs is heavily embedded in its technological architecture. Indian service companies, both public and private, are heavily under-invested in technology on a per-capita and per-sale basis compared to their counterparts in the United States or Europe. Indian service companies are more labor-intensive and do not have the technology platforms that will facilitate outsourcing except in the case of a few financial services companies such as ICICI and HDFC. The internal processes of most Indian services companies are idiosyncratic and not standardized as in large retail chains such as Wal-Mart or the healthcare companies in the U.S. The report hints that players who are interested in the domestic BPO market have to be prepared to face these challenges.

Infrastructure, salary and training costs are lower in the domestic segment. By moving to Tier II and Tier III cities, domestic companies can further increase profitability. However, the pricing in the domestic market is also proportionally lower. In India, pricing for a domestic firm is estimated to be anywhere between 30 percent and 60 percent less than its global counterpart. With the outsourcing market in India still not mature, buyers are reluctant to pay for world-class services. The report concludes that the success of such vendors, therefore, depends on how effectively they are able to deliver by way of their cost structure, people management and value creation.

Managing rapid growth while maintaining competitive costs and quality will be critical for the growth of the BPO service providers. Also, developing specialized services that provide greater value for businesses will be a key challenge to them. Aegis, MphasiS, IBM-Daksh, HTMT, First Source and Billjunction are some of the leading players in the domestic market.

Domestic Buyers' Perspective

According to the Ernst & Young report, domestic buyers go through a learning curve on outsourcing. In the first phase, they become aware of the outsourcing through market hype. In the second phase, they learn about the potential benefits of outsourcing and start with pilot projects. In the third phase, they explore this option for better quality and for cost reasons. In the final stage, mature adopters use outsourcing to enable corporate strategies such as increasing business agility, bringing products to market faster and at a lower cost, accessing new markets or creating new business. Currently, the majority of Indian clients are in the first or second phase of this process. However, the domestic market has significant addressable opportunities as the companies move up the learning curve.

The criteria adopted by the buyers to select the vendors include:

- Existing client credentials
- Financial and managerial capability of the provider to sustain and grow in line with increasing demand.
- Cost and quality
- Relationship with the vendor

As the business grows, buyers demand greater capability to scale up the services. This will result in terminating small contracts and moving to large players. As this trend grows, as seen in today's scenario, consolidation will hap-

Key Trends

- Domestic BPO market will reach \$6 billion in size by FY2012,
- Rising customer expectations and global aspirations demonstrated by the domestic companies drive the market.
- Customer Interactive Services (CIS) constitutes over 70 percent of domestic BPO revenues.
- BFSI, telecom, media, healthcare, retail and the government verticals will drive the domestic BPO market in the coming years.
- Companies shifting focus to Tier II and Tier III cities considering the cost benefits.
- Platform-based services flourish owing to their cost benefits during recession.
- Consolidation expected in the next two to three years with only 8-10 major players serving the market.
- Aegis, MphasiS, IBM-Daksh, HTMT, First Source, and Billjunction are some of the leading players in the domestic market.
- Long stabilization time, opposition from employees, lack of control over outsourced entities, and lack of industry expertise among suppliers are the challenges faced by domestic suppliers.

pen in the domestic BPO market. The domestic market, which was predominantly served by small players, will see large, experienced Tier I players dominating the market in the next two to three years, with only 8-10 leading players ruling the market, the report said.

Challenges Faced by Buyers

While most buyers are keen to outsourcing, they too are faced with several challenges, notes Ernst & Young. The most significant among them is longer stabilization time for the outsourcing process. It takes about six to eight months to integrate, stabilize and make the process work efficiently. Also, the lack of industry experience of the providers further delays this process. Ernst & Young notes that while the domestic supply side is capable of successfully managing activity-based operations, it has not, as yet, gained recognition for end-to-end process outsourcing in an industry-specific environment.

Buyer companies face significant challenges internally as well. As mentioned before, the employees in public sector organizations are opposed to the ideas of outsourcing. Their argument in favor of protecting their jobs is genuine. However, considering the increasing business activities in some of the public sector organizations and the potential benefits that BPOs will bring to them, it is worth focusing in this line. For private firms, the workforce scenario is no different. However, with greater emphasis given to productivity, these organizations succeed in outsourcing their businesses and as a result produce more employment opportunities in the higher management levels.

Last but not least, is the fear of losing control over the outsourced entity that makes some of the businesses reluctant to outsourcing. According to Ernst & Young, this makes it even more challenging to incorporate change and achieve high levels of quality.

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The Increasing Domain of Mobile Telephony in India

BY T.V. RAMACHANDRAN

Mobile telephony, which started nearly 15 years ago in India, has revolutionized the communication landscape in the country and has permeated various segments of everyday life for its citizens. The importance of mobile in everyone's life has undergone a paradigm shift. Telecom has evolved as a basic infrastructure like electricity, roads, water, etc., and has also emerged as one of the critical components of economic growth required for the overall socio-economic development of the country.

Mobile subscription in India is affordable, easier and faster to get. With low cost handsets and low value pre-paid services, including micro-prepaid, there are virtually no barriers to entry. Ease of use, combined with various value-added services which come with the mobile service, have led to mobile becoming the preferred device for communication.

The Indian telecom sector has done wonders in just a few years and is now the second largest wireless network in the world as well as the fastest growing network globally. As of today, there are nearly 430 million wireless subscribers in the country. India is the global No. 1 in terms of growth in the telecom sector. Every month new records are set in terms of subscriber additions and at present the additions are on an average 12 million new subscribers per month. Such growth has not been witnessed by any other country in the world.

It is due to the combined efforts of the industry, the government and the regulator that Indian telecom has attained such heights of performance and has had a long-term positive impact on the growth of the Indian telecom sector. Such concerted efforts have helped the mobile phone in India go beyond merely being a communication device. It is serving different purposes like a business enhancement instrument, a security device or an entertainment tool for different segments of the population. It is evident from the following pie charts that the highest users of the mobile services in India are the youth segment and professionals.

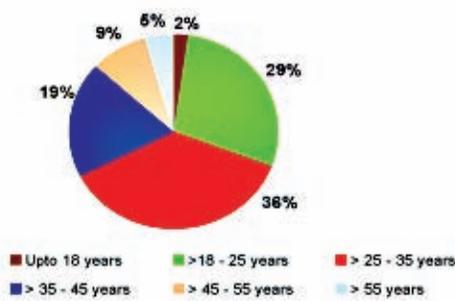
Much has been achieved in such a short time by the Indian telecom industry, though now is not the time to stand still. As Oliver Wendell Holmes, a Professor of Harvard said, "the great thing in the world is not so much where we stand, as in what direction we are moving." Thus, the next focus for all stakeholders is to take progressive steps in maintaining this growth and taking it to a much higher level.

While the major metropolitan cities may be seeing high penetration levels, the smaller cities and towns in the service areas are more than making up for the slower growth in the larger cities. And then there is the huge rural market potential that is still waiting to be tapped. As of now, over 50 percent of the new subscribers are coming from the rural areas. This is an excellent trend and demonstrates the efforts of the operators to make mobile services ubiquitously available to all citizens. To encourage the adoption of service in rural areas, the service providers have introduced low cost handsets, micro-prepaid and innovative tariff packages targeted at the rural customers, which have been quite popular and have enabled penetration amongst the rural masses.

The industry is exploring innovative options to help the spread of services to the rural masses. One such option is mobile banking. The rapid growth in users and wider coverage of mobile phone networks have made this medium an important platform for extending banking services and mobile payment facilities to customers. Nearly 41 percent of India's population of 1.2 billion is "unbanked" and almost 80 percent of it resides in rural areas. Mobile phones, which can be used to make payments and conduct banking transactions, are well placed to emerge as a strong tool for the financial inclusion of the masses. Mobile technology can be leveraged to open up channels beyond the branch network and create a banking footprint to reach the unbanked masses. The Reserve Bank of India (RBI) has already come out with operative Guidelines for Mobile Banking in India and the Guidelines for Issuance and Operation of Pre-paid Payment Instruments in India. Once implemented, mobile banking will fulfill the social objectives of the government, such as having one bank account for every household, saving billions of rupees by way of reduced transaction costs, etc. Realizing the potential of this service, the industry is in constant talks with the RBI to move the initiative forward.

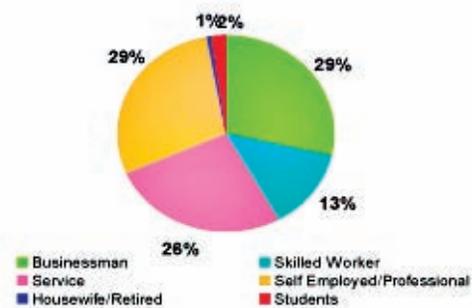
The announcement of guidelines on infrastructure sharing, especially allowing active sharing, by the government will also prove to be quite beneficial in taking mobile services to the rural areas. This initiative is also expected to help facilitate a further reduction in tariffs and make mobile communications even more affordable for all.

The industry has been aiming to create an environ-



Age-wise subscriber profile for 2008

Source: COAI-PwC Benchmarking Study 2008



Occupation-wise subscriber profile for 2008

ment that enables the delivery of the most cost-effective communication services across the length and breadth of the country, however, it is essential that the resources required for this are also in place.

To fulfill the needs of the rural citizens it is very important that broadband services are provided to them. This is possible through 3G, as 3G is nothing but Mobile Broadband. The plethora of services offered through 3G/Mobile Broadband will help improve productivity in rural areas, help overcome the constraints of an inadequate transport infrastructure and improve the overall quality of life in rural areas.

The 3G policy has been announced by the government and it has also finalized consultatively an excellent auction process for the 3G spectrum award involving world renowned names like Rothschild. The industry is just waiting for the auctions to take place. These are most desirable at this stage, so that with 3G services the operators are able to take the Indian telecom sector to a new level of growth. In the coming years, 3G – and its evolutions including HSPA – will serve as a valuable tool providing cost-effective mobile broadband coverage in rural areas, while simultaneously alleviating future capacity constraints in densely populated urban areas.

Another exciting initiative awaited is mobile number portability (MNP). Licenses have been issued for MNP agencies and the industry, regulator and the government are working together to make it a reality very soon, probably by September this year. The industry believes that MNP, once implemented in India, will provide choice to the customers to switch from one operator to the other. MNP will be beneficial for the subscribers, as service providers will take due care to retain them by providing them with better quality of service.

The government is also exploring the possibility of introducing mobile virtual network operators (MVNOs). The regulator's recommendations have been accepted by the government and at present the industry is awaiting detailed guidelines on the same. With the introduction of

MVNOs, the competitive scenario will be further enhanced, leading to more choice for the consumer. Consumers can look forward to niche service offerings from MVNOs.

At this stage, there is a dire need for spectrum reforms in the country. Till now, most of the licensing issues and other regulatory aspects have witnessed adequate liberalization and reforms, however, spectrum is one area that has been left untouched. To date, subscriber linked criteria

(SLC) has been followed for allotting additional spectrum to operators once they achieve a desired subscriber base. Up to now, SLC has served its purpose by achieving desired results in the Indian situation of "limited spectrum availability and intense competition." However, now a holistic and comprehensive view needs to be taken, keeping in mind the interest of all the stakeholders, and a suitable policy framework for spectrum should be developed. Looking at the exponential growth of mobile service, there is also a need to allot for more bands for mobile/mobile broadband services in the near future. The recent Spectrum Committee has come out with its recommendations and it is believed that the regulator is examining these and will make recommendations to take the industry to the next level of spectrum reforms.

In the end, the best part about Indian telecom is that in the last 15 years it has been making significant progress and is going

places with nothing to stop it. Nokia President and CEO Olli-Pekka Kallassvu, during his recent visit to India spoke of the beautiful Finnish word 'Sisu,' which describes strength of will, determination and pursuance. It is not just momentary courage; it is the ability to complete multiple difficult tasks over the long haul, to get things done. Indian telecoms have demonstrated Sisu time and time again and I am confident of this same performance for many years to come.

The writer is the director-general of the Cellular Operators Association of India.

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RF SPECTRUM: A PRECIOUS NATURAL RESOURCE AND ITS EFFICIENT USE BY ALL

BY P.K. GARG

General characteristics of RF spectrum:

The Radio Frequency (RF) spectrum is a limited natural resource. The set of radio frequencies is called the 'RF spectrum.' Theoretically the RF spectrum extends from 9 KHz to 3000 GHz. However, the limitation of the RF spectrum comes from a few critical factors. First of all, various radio frequencies have different propagation characteristics, and hence, their suitability for different types of requirements. This is because the radio frequencies follow the laws of physics. The lower the frequency, the longer the distance it can cover. On the other hand, the higher the frequency, the shorter the distance over which it can propagate. For example the short wave (HF – high frequency) band can propagate across the continents, whereas the microwave frequencies (SHF – Super High Frequency Band) can propagate up to a few kilometers only. Still higher frequencies can cover a few hundred meters only.

The second limitation arises from the fact that radio frequency propagation does not obey political boundaries of different countries. A short wave (HF) system can cover many countries in its normal course. Even the microwave transmissions close to national boundaries would propagate across the border. Because of this international nature of propagation, the RF spectrum has to be shared among different countries and the rules governing the use of the RF spectrum are international in character. These regulations are formulated by all countries under the aegis of the International Telecommunication Union, based in Geneva, Switzerland.

The next limitation of the RF spectrum arises from the availability of appropriate and globally-competitive equipment for various requirements. Different manufacturers produce equipment in the frequency bands most commonly used at the global level. The commercial services/networks have to go for techno-economic solutions. Hence, for any commercial usage, the equipment cost is an important consideration and the system should be available from multiple sources globally for availing the benefit of competitive pricing.

Still another limitation is the large number of different radio-communication services which have to use the RF spectrum for their operations. There are a total of more than 40 different radio-communication services. The most commonly known radio-communication services among the public are:



- 'Broadcasting' (both sound and TV – terrestrial as well as satellite based);
- 'Aeronautical Mobile' radio-communication and radio-navigation services (for aircraft operations);
- 'Maritime Mobile' radio-communication and radio-navigation services (for shipping operations);
- Fixed and Mobile radio-communications (mostly terrestrial, but some applications require satellite-based services also), which are used by a host of users, including police, fire-fighters, taxi operators, utility companies, oil and gas companies, etc., besides the public mobile telephony service and now the broadband wireless access services;
- HAMs/Radio Amateurs who practice the radio-communications as a hobby.

The RF spectrum has been in short supply all along, ever since the evolution of wireless/radio communications. With the development of wireless technologies, it has been possible to use higher frequency bands. To that extent, these new developments have opened up spectrum at the higher frequency bands for use. At the same time, the requirements of different wireless based services/applications have also been growing at a much faster pace. The result of all this has been that the RF spectrum has remained in short supply all along. This has necessitated

its continued optimal use by all wireless users through all practical means.

This resource cannot be stored for future use. If it is not used for a particular time, the utility/opportunity value for that particular time is lost. Further, this resource is susceptible to interference/electro-magnetic pollution, which can nullify its utility. Hence, the usage of this resource needs to be managed so that all the services and applications can use it without any harmful interference with each other.

Recent Growth of Public Mobile Telephony:

The recent decade has seen a tremendous growth of mobile telephony all over the globe. The trend of modern telecommunications is towards greater mobility with ever-increasing data rates/speeds, for achieving the goal of a knowledge-based society. By 2015, with the anticipated growth of broadband and the very large number of devices being connected to the Internet, the public telecommunication traffic is expected to grow tremendously. Approximately 40 percent of this total data is expected to flow through mobile/wireless services. Hence, there would be more demand on the RF spectrum for public services.

These public mobile services and their growth have brought about tremendous socio-economic benefits for the global society in general and for developing countries in particular. The tele-densities in most of the developing economies were extremely poor until public mobile telephony came on the scene. With the growth of mobile services, the tele-densities in most of the developing countries have improved tremendously, accompanied by the resultant socio-economic benefits. Broadband is considered an essential infrastructure for achieving a 'Knowledge Society' globally, which would improve the general economic level across the emerging economies. Most of the countries are giving a special impetus for achieving reasonable growth of broadband services – through wireline as well as wireless based services.

The requirements of other wireless based services are also increasing largely. All this has increased and would continue to increase the demand on the RF spectrum exponentially. The users of such equipment/services/applications need to modernize their systems to improve their efficiency of spectrum usage, which in some cases is far lower, relatively. The manufacturers of such systems also need to invest more in R&D to achieve higher spectrum efficiency for their systems.

With the anticipated exponential increase in demand on the limited and scarce natural resource of RF spectrum, it is inevitable that all categories of wireless users should use this resource most efficiently.

Spectrum/Frequency Bands Critical for Mobile Services:

Most of the present mobile technologies/systems need spectrum below 3 GHz. Hence, the maximum scarcity of spectrum is also felt in the frequency bands below 3 GHz.

At present, about 500 MHz of spectrum below 3 GHz is available for terrestrial based public/commercial mobile services. With the anticipated exponential increase in the mobile capacity requirements, it is estimated that the spectrum for terrestrial based public/commercial mobile services would need to be doubled, even with all the improvements through developments of new spectrum efficient technologies for commercial/public mobile services, like LTE (Long Term Evolution) and WiMax, etc., which are expected to increase the spectrum usage efficiency by a factor of four or more as compared to the present systems.

One of the most promising developments in this regard

in recent years has been in the field of broadcasting – the development of digital broadcasting. Digital broadcasting can reduce the spectrum requirements to less than 20 percent of the spectrum needs for similar analog systems, besides promising much better signal quality and performance. Even with the increased number of digital TV channels likely to be brought into service, as well as the use of high definition TV (HDTV), about 80–100 MHz of the immensely valuable spectrum below 1 GHz is likely to be released by broadcasting services for other public mobile communications.

The likely release of the RF spectrum by the broadcasting sector is being referred to as the 'Digital Dividend' globally, considered a once-in-a-lifetime opportunity.

Another possible measure to release some spectrum is to persuade various services/applications that can equally operate in higher frequency bands, to shift to such bands. One such application is the fixed wireless links – wireless links between fixed geographical locations. Earlier, when the reliable systems in higher frequency bands were either not available or were extremely costly, many fixed wireless links had been engineered in frequency bands around 2 GHz or even below 1 GHz. Now that reliable fixed wireless systems in higher frequency bands are available from multiple sources and at relatively economical prices, such fixed wireless links can shift to frequency bands around 10 GHz or higher. This can release about 200–300 MHz of spectrum for terrestrial based mobile services.

Yet another possibility for releasing some of the precious spectrum below 3 GHz is by the radio navigation services. Now that radio-navigation systems in higher frequency bands can provide equally reliable performance and are in fact in use in many places, the users of radio-navigation systems in frequency bands below 3 GHz need to seriously consider whether some or all of such systems can be shifted to higher frequency bands/systems.

The optimum efficiency in spectrum usage can be achieved through various methods – like national policy directives, economic measures like appropriate spectrum pricing, etc. With the trend towards market mechanism for spectrum, the economic methods of appropriate spectrum pricing can drive better spectrum efficiencies across the spectrum, by different services and applications. The trend of 'auctions' for RF spectrum used for public mobile services, is gaining ground across the globe. At the same time, the similar spectrum used by other services also needs to be priced at comparable levels, so as to provide an incentive for the users of those services and applications to move to spectrum-efficient systems or to higher frequency bands, where possible. The differential pricing for different parts of the spectrum – relatively lower prices for higher bands – can also provide an incentive. The spectrum pricing can follow a dynamic approach with periodic review every five years or so.

Every country has its own specific situation and no single solution can be applicable for all countries. However, by adapting some of these broad parameters to country-specific situations, reasonably optimum and efficient use of this resource can be achieved.

In conclusion, through adoption of various policy measures and the provision of incentives as well as through a cooperative approach of all the large wireless users in a country, it should be possible to use this precious natural resource in the most optimum manner, so as to derive the maximum benefit for the public at large.

The writer is a member of the Radio Regulations Board, ITU, and former wireless adviser to the Government of India.

Note: The views expressed in the article are those of the author and do not necessarily represent the views of his organizations.

TAKING THE ECONOMIC CHALLENGES HEAD ON: INDIA SPENDS FOR ITS MASSES

BY NADEEM AKHTAR

The second inning under Indian Premier Manmohan Singh gave Union Finance Minister Pranab Mukherjee the first opportunity to present his budget, and with his experienced decision, he proved that he will go a long way.

The Finance Minister has abolished the Commodity Transaction Tax (CTT), which was announced in the budget last year, to help industrial development in India. This will make the domestic market more efficient and globally competitive, attractive to foreign investors and allow for more effective risk management. Though there is no exemption of corporate tax, the removal of the fringe benefit tax is being regarded as a welcome move for producers as well as consumers. Custom, excise and import duties are being reduced in certain products. The customs duty on LCD televisions, for example, has been reduced from 10 percent to 5 percent, which will be beneficial for South Korea, China and Japan, the largest exporters of LCD televisions. The budget proposal to reduce the customs duty will obviously reduce the production cost, which will then motivate international trade. Besides LCD panels, a 4 percent reduction in Cenvat (Central Value Added Tax) on imported mobile phone accessories and machinery is being introduced, which will have a major impact on market development.

The budget also reduced the basic customs duty on influenza vaccine and nine other specified life-saving drugs used for treating breast cancer, hepatitis-B, rheumatic arthritis, etc. It has also reduced the basic customs duty for two bulk drugs used in manufacturing these medicines from 10 percent to 5 percent. The customs duty will also be reduced from 7.5 percent to 5 percent on two specified life-saving devices used in treating heart ailments. These devices will also be fully exempt from excise duty and countervailing duty. The budget has proposed an increased excise duty on gold and silver, which makes jewelry more expensive; however, women's favorite branded imitation jewelry has been exempted from import duty. With the most common cosmetic surgeries now also subjected to customs duty, Indian women will have to spend more money from their purse to beautify themselves. Exempt from excise duties are bio-die-

sel products and several kinds of software. Heavy vehicles have also had duties reduced to 8 percent from 20 percent.

Pranab Mukherjee rose through a series of cabinet posts to become the Finance Minister of India from 1982 to 1984 and presented his money-saving budget according to the 20-point program. The budget for 2009-2010 is essentially oriented towards rural development. Mr. Mukherjee has made an effort in bridging the urban-rural divide by pushing social welfare spending. There has been a record increase in the allocation for the national rural employment guarantee fund, and a 45 percent increase in money for irrigation benefit schemes, such as the Bharat Nirman Scheme, which seeks to upgrade and modernize rural infrastructure, while reducing the gap between Bharat and India. An allocation of Rs. 70 billion has been made to Rajiv Gandhi Grameen Vidyutikaran Yojana, which represents a 27 percent increase over 2008-2009.

Additionally, the National Rural Employment Guarantee Act (NREGA), Pradhan Mantri Gram Sadak Yojna (PMGSY), and Rashtriya Krishi Vikas Yojana (RKVY) have received a budgetary increase of 144 percent, 59 percent and 30 percent respectively. The stated main purpose of the budget changes is the modernization of Indian rural areas in order to bring them closer to mainstream development. A new scheme called Pradhanmantri Adarsh Gram Yojana (PMAGY) has been launched for the integrated development of 40,000 scheduled castes and scheduled tribes-dominated villages in the country.

Motivated by the 4 percent annual growth in agriculture, the government announced an agricultural debt waiver and debt relief schemes for farmers. Increasing the credit flow to the farm sector from the existing Rs. 2,87,000 crore to Rs. 3,25,000 crore, providing relief to farmers by extending the loan recovery period to the end of the year and setting up a task force specifically to check suicide cases among farmers in different states are surely steps in the right direction.

The budget also focuses to minimize the impact of the global recession on the Indian economy. Towards this end, it is necessary to provide stimulus to our economy. A handsome additional allocation has been made for inclusive growth and other flagship programs such as the Urban Renewal Mission and the National Rural Health Mission. On the export front, the extension of subsidies on interest of credit for labor-intensive export units until the end of September can be seen as a positive step. Disappointed with the Railway Budget 2009-2010, the interim budget gave transporters great relief. Railway has implemented a 10 percent service tax on carriage, which would give the industry an overall

increase of three percent. It will also generate revenues from different states. Government will provide additional budgetary support of Rs. 50 billion to Railways in the fiscal year 2009-2010, and its financing arm, the Indian Railways Finance Corporation, will issue tax-free bonds. The government has also given transporters a sigh of relief by taking back all cases of service tax. The interest subvention of 2 percent – specifically on interest on pre- and post-shipment credit for employment-oriented sectors – will now be extended beyond March 31 to Sept. 30. It will be beneficial for sectors like textiles, carpets, leather, gems and jewelry, marine products and other small and medium enterprises. The finance minister extended the stimulus package for the print media by another six months, until Dec. 31, 2009, bringing relief to the industry hurt by falling advertising revenue.

The budget provides a road map for future economic policy, suggested tax simplification, subsidy reform and divestment as remedies for India's fiscal problems. Finance Minister Mukherjee announced initiatives that would remove the intermediaries in the supply chain and deliver subsidies directly to the intended beneficiaries. It aims to move to a system of direct transfer of fertilizer subsidy to farmers and introduce a nutrient-based subsidy regime (direct transfer of fertilizer to small and medium farmers would provide them with an incentive). The government will set up an expert group to advise on a viable and sustainable system of domestic pricing of petroleum products to reflect global changes. It also proposed to encourage people's participation in our disinvestment program. Public sector enterprises such as banks and insurance companies will remain in the public sector and will be given all support, including capital infusion, to grow and remain competitive. This is aimed at pursuing structural changes in direct taxes by releasing the new Direct Taxes Code within the next 45 days and in indirect taxes by accelerating the process for the smooth introduction of the Goods and Services Tax (GST). With a view to providing interim relief to small and marginal taxpayers and senior citizens, the personal income tax exemption limit has been increased by Rs.15,000 from Rs.2.25 lakh to Rs.2.40 lakh for senior citizens. Similarly, it has been proposed to raise the exemption limit by Rs.10,000 from Rs.1.80 lakh to Rs.1.90 lakh for women tax payers and by Rs.10,000 from Rs.1.50 lakh to Rs.1.60 lakh for all other categories of individual taxpayers.

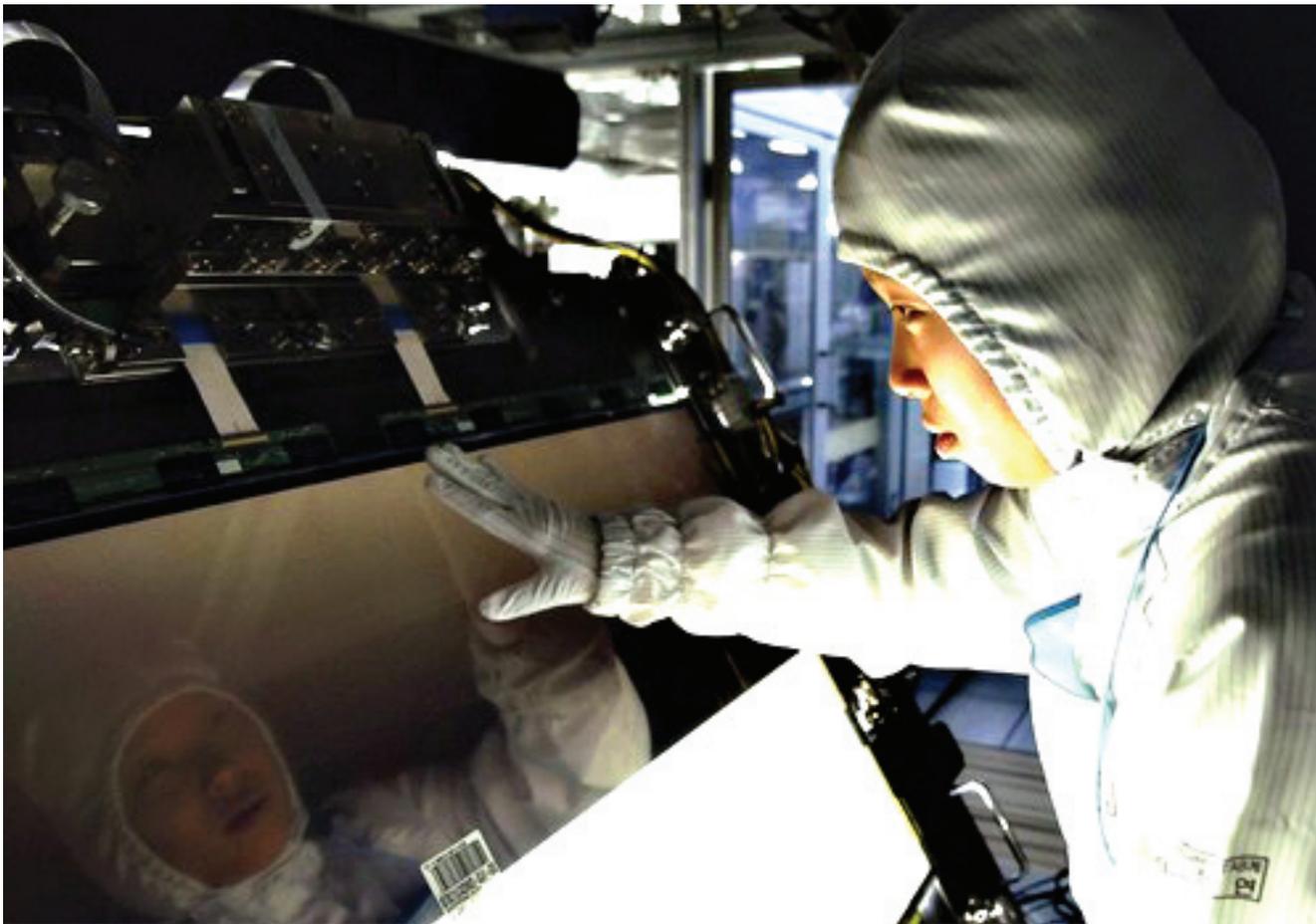
The Swarna Jayanti Gram Swarozgar Yojna (SGSY) is be-

ing restructured as the National Rural Livelihood Mission to make it universal in application, focused in approach and time-bound for poverty eradication by 2014-2015. Here also, the formation of women's Self Help Groups (SHGs) will be stressed. Apart from providing a capital subsidy at an enhanced rate, it has also been proposed to provide interest subsidies to poor households for loans up to Rs. 1 lakh from banks. The corpus of the Rashtriya Mahila Kosh would be raised to Rs. 5 billion from the exiting Rs. 1 billion in recognition of its role as an instrument of socio-economic change and development. This fund has been working towards the facilitation of credit support or micro financing for poor women and has developed a number of innovative schemes for their benefit.

The National Food Security Act (NFSA) will ensure that every family living below the poverty line in rural or urban areas will be entitled by law to 25 kilos of rice or wheat per month at Rs. 3 per kilo. The government proposed to put the draft Food Security Bill on the website of the Depart-



**External Affairs Minister and Acting Finance Minister
Pranab Mukherjee outside the Finance Ministry in New Delhi.**



A worker of LG Display checks its liquid crystal display (LCD) screens at the company's plant in Paju, about 55 km (34 miles) north of Seoul. It is expected that Indian Budget proposal to reduce Customs duty will obviously reduce the production cost of LCD's, which would motivate international trade.

ment of Food and Public Distribution for public debate and consultations. In order to provide a strategy for adapting to climate change and enhancing ecological sustainability, eight national missions representing a multi-pronged, long term and integrated approach are being launched, and necessary funds for these missions are being proposed. Owing a debt of gratitude to valiant ex-Servicemen, the budget introduced its 'One Rank, One Pension' (OROP) program. On this basis, the government has decided to substantially improve the pension scheme of defense pensioners below officer rank (PBOR), resulting in an enhanced pension for more than 12 lakh jawans and JCOs.

The setting up of the Unique Identification Authority of India (UIDAI) is a major step towards national security, and a provision of Rs. 1.2 billion has been proposed for this project. The UIDAI will set up an online database with identity and biometric details of Indian residents, while also providing enrolment and verification services across the country.

In order to convert the young population into a dynamic, economically advantageous position by providing them the right education and skills, provisions for the scheme 'Mission in Education through ICT' have been substantially increased to Rs. 9 billion. Similarly, the provision for setting up and upgrading of Polytechnics under the Skill Development Mission has been increased to Rs. 4.95 billion. The government shall take forward its intent of having one Central University in each uncovered State and has allocated Rs. 8.27 billion, while setting aside Rs. 2.11 billion for IITs and NITs. The budget proposes to launch a new project for modernization of the Online Employment Exchanges in public private partnership to provide 1.2 crore worth of employment every year. A job seeker can register online

from anywhere and approach any employment exchange. Substantially enhancing the allocations for the Commonwealth Games from Rs. 2.11 billion in the Interim Budget to Rs. 3.47 billion, the Finance Minister expressed that it would provide an opportunity to showcase Indian potential as an emerging Asian Power.

The global economic recession has increased the fiscal deficit to an intolerable rate of 6.8 percent, posing a difficult challenge. There was nothing in the budget to enthuse the market and change the mood of the trade, foreign investment and corporate worlds. Sixth pay commission, fertilizer subsidy and relief packages gave an extra burden to the government, which must ensure that the allocations are properly utilized in such a way that the outcome is equivalent to or commensurate with spending accruing to the nation. Towards this, the government must simply ensure good governance. A monitoring system should be put in place to measure and evaluate outcomes. The finance minister has stated his goal of controlling the deficit in the coming years. He has proposed various funds, schemes and programs for infrastructure and rural development to counter the economic recession, all of which would strengthen the economic structure of a future India. Employment schemes would increase individuals' incomes, potentially changing the market conditions and contributing to achieving the targeted 9 percent GDP growth rate.

In summary, Pranab Mukherjee has three main challenges – achieving a 9 percent GDP growth rate, constant economic development, and opening a new development threshold to strengthen and ensure good governance. The budget is only the beginning, and the coming years will hopefully provide evidence of healthy development of a growing India.



THE CARBON RUSH IS HERE

BY AMANDA MIN CHUNG HAN

Throughout history there have been gold rushes, silver rushes, oil rushes and even diamond rushes. Now, it seems, the carbon rush is coming. In the 21st century, carbon has become the new gold. As gold seekers once rushed to California, South Africa and Australia to seek their fortunes, emissions trading attracts almost all nations the rich and the poor, the developed and the underdeveloped.



Carbon emissions and other greenhouse gases are considered a major element and leading cause of global warming. Now, people also see these emissions as one of the biggest potential areas of growth in the financial markets. Underdeveloped countries especially see the possible benefits of this greenhouse gas from both the environmental and economic points of view.

Under the Kyoto Protocol, three mechanisms are in place to meet the commitment to reduce greenhouse gas emissions.

Joint Implementation (JI) refers to investing in the joint reduction of emissions projects created by industrialized countries (the so-called Annex D countries). Any Annex I country can invest in emissions-reducing projects in any other Annex I country in which the cost of these programs is cheaper.

The countries that successfully reduce emissions are awarded credits called Emission Reduction Units (ERUs). One ERU is equal to one metric ton of CO₂ emissions reduction. Credits earned from this program are counted towards each country's commitment goal. Currently, Russia and Ukraine are scheduled to host a large number of JI projects, thanks to the relatively inexpensive cost of setting up facilities in their territories.

The Clean Development Mechanism (CDM) is an arrangement that allows industrialized countries to meet their greenhouse gas reduction commitment (Annex B countries) by investing in emissions-reducing projects in cost effective developing countries instead of their own. If a project is implemented and emissions are reduced, credits called Certified Emission Reductions (CERs) are awarded. Each unit of CER is the same value as an ERU — one metric ton of CO₂.

However, the CDM is considered a controversial issue. The CDM program is opposed by environmental NGOs and by developing countries that feel the developed countries are taking advantage of this arrangement. Unlike the case of CDMs, JIs have caused less concern because these programs take place within countries that have emissions reduction commitments.

Emissions Trading (ET) basically trades allowances, which refer to the right to emit a certain amount of emissions. An authority, usually a government or international organization, sets a limit or a cap on the allowable amount of greenhouse gas emissions. Companies or other organizations are required to not exceed those limits. Companies that need to emit more than allowed by the cap must buy allowances from those who emit less than the limit. Thus, in theory, companies that emit less than the cap may sell their excesses and receive financial compensation from those who emit more pollution.

Currently, there are a number of active trading programs, the biggest being the European Union Emission Trading Scheme (EU ETS). The EU ETS traded more than 18.1 billion euro in 2006 and 18.5 billion euro in 2007. The World Bank estimates that the size of world emissions trading will reach US\$150 billion by 2010.

Asian countries have also tapped into the greenhouse gas and/or carbon emissions exchanges. Japan and China are very eager to launch an exchange, whereas India has already begun futures trading in carbon credits.



Korea, which is the world's 10th largest energy consuming country and the world's ninth largest carbon emitting country, accounting for 1.7 percent of total CO₂ pollution worldwide, has also recently embarked on its own emissions trading/exchange projects.

Two exchanges, the Korea Exchange (KRX) and the Korea Power Exchange (KPX) are both planning to set up emissions trading exchanges by the end of 2011. Korea Investment and Securities created a carbon fund that invests in emissions-reduction projects, and Daewoo Securities has introduced emissions trading derivatives-linked securities.

The state-run Export-Import Bank of Korea (Eximbank) also recently announced its plan to launch a 100 billion Korean won (US\$76 million) 'Carbon Fund' in late September of this year. The bank will provide 15 percent of the funds and the rest will come from the Ministry of Knowledge Economy. The bank plans to select a financial firm to manage the fund in July.

This carbon fund will purchase carbon credits generated by Korean companies in CDM projects in order to contribute to the development of the CDM market, as well as green finance in Korea.

Korean conglomerates such as Samsung and LG have also joined the CDM market. Samsung Everland recently requested project registration under the United Nations Framework Convention on Climate Change (UNFCCC) while LG has already registered one CDM project.

However, these approaches are in their early stages. It is still uncertain which government body — the Ministry of Knowledge Economy, the Ministry of Environment or the Financial Supervisory Commission — will supervise the carbon exchanges. Furthermore, the so-called Low Carbon Green Growth Law is still under debate. Additionally, Korea is not a signatory of the Kyoto Protocol and is still reluctant to set emissions caps on corporations because it could limit its economic growth.

Mr. Kim Hyun-bo, spokesperson for the KPX, explained that KPX, KRX and the Korea Energy Management Corporation (Kemco) recently signed a memorandum of understanding with the Chicago Climate Exchange (CCX) in or-



der to establish these Korean carbon exchanges and create a climate of cooperation.

However, as he pointed out, "Since the Green Growth Bill has not been enacted, and we are not sure which government agency will monitor the exchange, we will just have to wait until the groundwork is completed."

The government once mentioned that their blueprint to decide the governing body and the exchange operating body would be released by the end of this year. A person familiar with the matter said, KRX and KPX are competing with each other for the right to manage the carbon exchange, though now the only thing they can do is wait until the government completes the groundwork.

It seems that many hurdles remain. The early stages of creating an emissions trading system are far more difficult than the trading itself. Once everything, such as rules and modalities are set, the trading will be simple, said Kim Pil-kyu, research fellow at the Korea Capital Market Institute.

He stressed that rules and modalities are the first consideration. According to the government's five-year plan, the regular market will be opened in 2011. However, there are a great number of prerequisites, such as rules including compliance standards and reporting measures.

While Korea is struggling with the groundwork, other Asian countries are already well underway with emissions trading and carbon exchanges.

China set up the China Beijing Environment Exchange (CBEEX) as the first emissions trading exchange in Asia. CBEEX, an environmental equity transaction institution authorized by the Beijing Municipal Government, was created by the China Beijing Equity Exchange (CBEX) for the purpose of publicly trading environmental equities. CBEEX plans to become a primary trading platform for domestic and international environmental equity.

According to a recent Financial Times report, CBEEX is planning a joint venture with Europe's largest carbon credit exchange, Bluenext, in order to expand its business in China.

India launched futures trading in carbon credits in January 2008 and it was the first Asian carbon derivatives exchange. The country's biggest commodity exchange, the Multi Commodity Exchange (MCX), launched carbon emissions derivatives in order to initiate carbon trading throughout India.

The MCX formed a strategic alliance with CCX in September 2005 and signed a memorandum of understanding with IDEACarbon, a rating, research and strategic advisor to carbon market participants.

India, as the fifth-largest emitter of fossil fuel derived carbon dioxide, is now under international pressure to reduce greenhouse gas emissions. That was one reason India took a step forward in terms of emissions trading among developing countries.

India also signed the Kyoto Protocol and has pledged to reduce its carbon emissions by 10 percent by 2012 from the benchmark level of 1990.

India is one of the major players in the global market on the supply side of certified emission reductions (CERs). According to an MCX press release, India has already generated close to 30 million carbon credits, with roughly another 140 million in the pipeline for sale as of January 2008.

When the carbon credit future was launched, five contracts of carbon credits were available on the MCX platform expiring on Dec. 15 in the years 2008, 2009, 2010, 2011 and 2012.

The current global price for one metric ton of carbon dioxide, as listed at the CCX, hovers at around US\$6. The total volume of carbon traded electronically in June 2009 was approximately 2.1 million metric tons.

The Indian government expects to earn up to US\$100 billion through the trading of CERs, according to a recent report in The Economic Times of India.

S.N. Dash, Secretary of the Ministry of Heavy Industry and Public Enterprise, said that India has already sold carbon credits worth US\$300 million, and there are around 930 carbon credit projects currently in the Indian carbon trade basket, while around 180 more similar projects are likely to be added every year, according to the report.

Those companies involved in the emissions trading and CERs also have to account for carbon credits sold or issued to them under the UNFCCC as of April 1 of this year.

Corporations in India also have to account for all the carbon credits that were issued as well as carbon credits that they may have sold throughout the current financial year.

According to Indian accounting guidelines, carbon credits are considered intangible assets and need to be treated as inventory on the balance sheet until they are sold.

At present, there are 2,058 CDM project activities registered or requesting permission from the UNFCCC throughout the world.

India is involved with 138 projects as of July 9, 2009 while Korea is participating in only 12 projects.

Since October 2005, 313 million CERs have been issued, the most recent of which were for an India-Spain project, which issued a staggering 42,647 CERs according to UNFCCC statistics.

The expected average annual number of CERs from registered projects in India is currently estimated at 35 million, whereas Korea is estimated to average an annual reduction of 14 million CERs—a total annual reduction of 11.62 percent and 4.81 percent, respectively.

However, there are no co-projects between India and South Korea as of now. India has been working with many European and Asian countries, such as Germany, the United Kingdom, Northern Island and Japan, while Korea has been involved in multilateral talks with Japan, Switzerland and France.

There are still many areas in which Korea and India can benefit from cooperating in these huge carbon credit markets.

Mr. Kim In-soo, Director of the derivatives market at KRX, stressed the possibility of cooperation. We are interested in a very strong partnership with a foreign carbon exchange so that we, in turn, can set up a competitive carbon exchange in Korea, he said.

And the cooperation between the two countries has already started.

Mr. R. K. Sethi, member secretary at The National CDM Authority in India said, There are a lot of opportunities for mutual cooperation between our two countries and, as a matter of fact, we recently had visitors from LG Electronics who were interested in Indian CDM projects and wished to further discuss the matter.

He also said that the future of the Indian CDM market is very bright. The market looks so positive. Nearly 65 projects are newly added every month. This month alone, we reviewed between 65 and 67 projects, Sethi said.

A BUDGET FOR THE COMMON MAN

BY RAJANI BABURAJAN

At a time when the struggling global economy is gasping for air following a recession that was sparked by the home mortgage loan crisis in the U.S., India's Finance Minister Pranab Mukherjee presented the Union budget on July 6.

His main aim was to build a strong India and its infrastructure, a vital tool to ensure 9 percent economic growth. During the budget session, the stock market tanked against his expectations. It was the worst fall ever on a budget day. An increase in the minimum alternate tax (MAT) and a fiscal year 2010 deficit estimate at 6.8 percent of gross domestic product (GDP) forced the markets to react. The market was expecting a reduction in corporate tax, a removal of surcharges on corporate tax, aggressive reforms, divestment of fuel prices, 3G and foreign direct investment policies, but no such announcements were made.

But the government is still focused on its goals: the growth of the country and a happy common man.

"There are some early indications of recovery in the global economy and the Indian economy is also showing signs of pick-up. Investment in infrastructure will raise the capacity for growth and employment generation. The government has given an overall stimulus of nearly US\$44.7 billion to the economy," Mukherjee said presenting the budget.

"The fiscal deficit is expected to come down from 6.8 percent of GDP in 2009-2010, to 5.5 percent in 2010-2011 and further to 4.0 percent in 2011-2012. Fiscal prudence is critical for maintaining a stable balance of payments, moderate interest rates and steady flow of external capital for corporate investment. Much of the decline in business and corporate tax collections is cyclical and will tend to be reversed with growth expected to pick up from the second half of the current year. The introduction of the Goods and Services Tax in 2010-2011 is expected to bring a sustained rise in tax revenues," he added.

Many of the corporate houses said this is a balanced budget. "Like always, the budget is a mixed bag. The glass half full is the removal of the surcharge and an increase in the standard deduction by Rs. 10,000. This will improve the consumption sentiments. The consumer market will indeed show buoyancy. The abolition of a fringe-benefit tax is a big relief. The glass half empty part is the increase in MAT to 15

percent and status quo on the CST tax, which was expected to come down to 1 percent to give way to the GST next year," said Alok Bharadwaj, senior vice president of Canon India.

Following the budget, nobody is expecting any miracle to happen to achieve the expected 9 percent GDP growth. The growth rate of GDP dipped from 9 percent in the previous three financial years to 6.7 percent during 2008-2009. The government must invest heavily to enjoy 9 percent growth, but the finance minister is not giving any strong signals. His main hope is on divestment in public sector undertakings. But the realization of funds will depend on the recovery of the markets.

Pro-UPA analysts termed this as "a budget for the masses." But it is not true considering the spiraling prices. Though the wholesale price index rose to nearly 13 percent in August 2008 and had an equally sharp fall to zero percent in March 2009, consumers are feeling the heat when they go shopping. The earlier dip in interest rates have yet to reflect in the pockets of the masses. At present, there are indications of a coming increase in interest rates.

The current budget has a special focus on education. Commenting on the Union budget, CEO and managing director of Aptech Ninad Karpe said, "A focus on education in the Union budget coupled with the reforms proposed by the education minister will definitely invigorate this sector."

The government has also put a huge focus on R&D and it is good to see a continuity of fiscal stimuli. Other encouraging measures include the 'Mission in Education Through ICT,' which has been substantially increased to Rs 9 billion, and the provision for the setting up and the upgrading of Polytechnics under the Skill Development Mission was enhanced to Rs 4.95 billion.

Some companies feel more should be done to give an impetus to ICT in education and literacy. "It was also discouraging to see that the extension of the sunset clause was only for one year, which ideally should have been extended for a longer period," said Ajai Chowdhry, CEO and chairman of HCL Infosystems.

"The provision for the scheme 'Mission in Education Through ICT' and for setting up and upgrading Polytechnics under the skill development mission is a welcome move for businesses. Also, the proposal for opening one central university in each uncovered state and for setting up new IITs and NITs will further provide an impetus to our goal of making India a knowledge economy," Aptech's Karpe added.

The Finance Minister has sought to give a stimulus to the sector by introducing monetary support for education in the form of bank loans at easy terms. The interest subsidy for students taking courses from approved institutes and the expansion of income tax incentives on education loans covering vocational studies will further encourage students to acquire and upgrade their skills, thus enhancing their employabil-



Pranab Mukherjee



Ganesh Guruswamy



Alok Bharadwaj



Bikram Dasgupta



Ninad Karpe



Balaji Sreenivasan



ity. However, a country like India with its vast population would definitely require much more emphasis and support to make training and education available to all.

MAIT, the apex body representing India's IT hardware, training and R&D services sectors, welcomed the thrust given in the Union budget towards sustaining national economic growth and making it inclusive. Further, the industry body expressed satisfaction for the focus given to infrastructure development, the uplifting of the rural economy and the launch of several schemes towards promotion of education, especially among the socially and economically hindered.

MAIT hailed the government's decision to maintain the current excise and custom duty levels on IT products and components. The hardware industry supports long-term stability in policies and duty structures, as frequent changes adversely impact the investment and business plans of the industry.

The finance minister has unveiled the roadmap for GST, which is very critical for creating a single-India market. This calls for the unification of the rate on the excise duty and the service tax. The service tax remains at 10 percent while the rate of excise duty is 8 percent. Looking forward, the industry expects better involvement and engagement with the government as the finer details of the GST are worked out, MAIT opined.

Further, the Union Budget has also addressed the issue of taxation on packaged software. The license/right to use part of the value of the packaged software would now be subjected to a service tax only and not an excise duty/CVD. This is as per the industry's recommendation. However, the issue of state governments levying VATs on software already treated as a service remains unresolved.

The government has recognized the strong potential of the electronics hardware industry. In this regard, the announcement of a reduction in the customs duty on LCD panels and an exemption of CVD on parts and components of mobile phones for manufacturing these products locally is truly welcome. However, to sustain hardware manufacturing in the country in the long run, it is critical that SAD be abolished on finished goods and components or made at par with the CST.

The creation of the Unique Identification Authority of India will go a long way in addressing the security and challenges of the governance of national programs. Similarly, modernization of employment exchanges and the creation of an integrated web portal would allow for a better mapping of skill sets with suitable jobs, ensuring transparency and better productivity.

HCL Infosystems' Chowdhry says overall, this budget is good for the IT sector with certain facets that are encouraging. However, the ICT Industry was looking for more support from the government. "We had recommended 100 percent depreciation on the financing of IT equipment, but it was not included. On the taxation aspect, the excise/CVD exemption is unclear as it was not stated whether VAT is included in this or not," he added.

According to Balaji Sreenivasan, CEO and founder of Aurigo Software, it's a mixed bag. He thinks the finance minister has done well in increasing the infrastructure spending to equal 9 percent of the GDP, abolishing FBT and eliminating the surcharge on personal taxes.

Outside of these three reforms worthy of mentioning, some companies were especially disappointed with the weak measure to increase the personal taxation exemption limit by a mere Rs.10,000. "This is an apology of a reform and more was expected. I was also disappointed that no mention was made in the budget regarding taxation on software products. Being a software product company, we expected the government to eliminate the service tax on software products in order to facilitate lower costs of software automation and to spur technology adoption in India. This has not been done

and is a detrimental action for the country's growth and a negative sign for software product business in India," said Sreenivasan.

Corporate tax reforms have not been touched, but that was expected. It makes one think the CPI (M) is indeed a part of the new UPA as well. "However, being a leading ERP vendor in the infrastructure space, we are excited at the prospects of a surge in spending on infrastructure (and power projects) in the coming year and are looking forward to more business despite the roadblocks," said Sreenivasan.

Continued investment in e-governance and infrastructure projects through public and private partnerships will provide much-needed direction and sustained development in an emerging nation like India. Investments in SMART infrastructure offers opportunities for the semiconductor industry to introduce new solutions and will also generate entrepreneurs.

The deduction of Income Tax under section 10A and 10B, which is available in respect of the export profit of eligible entities, has been increased by one more year up to 2010-2011. However, the industry expected the government to extend this by a few more years to generate growth in the IT sector.

"I am particularly delighted about the increased focus on the development of technical graduates, which is essential in a country like ours where human capital is a key asset. The allocation of Rs. 2.11 billion for NITs and new IITs will create world-class educational centers that will nurture talent in India," said Ganesh Guruswamy, vice president and country manager of Freescale Semiconductor India.

According to Partha Iyengar, VP and regional research director of Gartner India, the budget overall was a disappointment in the context of the huge expectations everyone had in terms of the bold brave strokes that Mr. Mukherjee was expected to (or everyone was hoping he would) paint for the direction of the Indian economy. Instead, it has turned out to be a sober, minimalist, practical budget with some tweaks and corrections of anomalies (e.g. dropping the FBT tax) rather than any major ground-breaking moves.

The refinancing of 60 percent of commercial bank loans for the PPP projects in critical sectors like telecommunications, power generation, airports, ports, roads and even in railways will definitely be very encouraging for software vendors such as Sybase, which predominantly provides IT solutions like Business Intelligence and Enterprise Mobility in these segments.

"It is a conservative, but intelligent budget. I feel it's a common man's budget, which is required at this point in time to give the required stimulus to the economy," said Sunil Jose, managing director for Sybase, India and the subcontinent.

The budget delivers on quite a few of the expectations of the IT industry. "We are particularly pleased with the one-year extension granted to the tax holiday scheme, as it would greatly benefit the SMEs especially given the tough market conditions faced due to the downturn. It is heartening that the finance minister has abolished the Fringe Benefit Tax and double taxation on packaged software, which will simplify business," said Sudip Nandy, CEO of Aricent.

"Increasing the overall budget allocation for higher education is indeed a welcome move and combined with the tax benefit under Section 80E for education loans will also further give a boost to the sector and bring education closer to many deserving youngsters," said Bikram Dasgupta, chairman & CEO of Globsyn Group.

This is a budget for the masses. It is high time to hail such moves. Let us wait for the recovery of the global economy. The Indian economy will respond positively. We have seen this before.



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INTERVIEW: DOUG MOW

Senior Vice President – Marketing, Virtusa Corporation



“ We have recently started exploring the Indian Market and believe our strong value proposition will address many of the IT challenges and issues Indian enterprises are facing today.”

The following is an interview between Asia-Pacific Business and Technology Report and Doug Mow, senior vice president for marketing at Virtusa Corporation.

Question: Please tell us about Virtusa India's activities.

Answer: Virtusa is a global information technology (IT) services company providing IT consulting, technology and outsourcing services. We specialize in creating high performance processes by simplifying our clients' IT environments, thereby enabling them to improve their customers' experience, expand market reach, improve time to market and lower costs.

We have recently started exploring the Indian Market and believe our strong value proposition will address many of the IT challenges and issues Indian enterprises are facing today. India as a market offers immense opportunities across industry verticals such as banking, financial services, insurance, telecommunications and others.

To support our sales efforts, we have invested in recruiting a sales team dedicated to the region and are planning marketing activities to identify opportunities.

Q: What is the outlook of the software services industry in India? How is it expected to grow in the coming years?

A: According to NASSCOM, the current domestic IT Services spending in India is estimated to touch US\$8.3 billion in 2009, growing 20 percent over the previous year. The need will be across application services, IT consulting, IT Management and others. This growth is more than twice that of the global market.

Q: How do you position Virtusa in this highly prospective area?

A: With more than a decade of providing quality service to global clients, we differentiate ourselves from our peers by focusing on business outcomes. Through our unique platforming approach, we have assisted global companies in consolidating, modernizing and rationalizing their core business processes. This has resulted in customers reaping immense benefits including improving their end-customer experiences, lowering costs, improving time-to-market, increasing revenues and increasing market share. Serving global clients enables us to bring best practices from around the world to our Indian customers.

Q: What are the key verticals for Virtusa in India?

A: Banking, financial services, insurance and telecommunications are target industries for us. These sectors experience reduced business agility, substandard customer experiences and high costs due to complex IT environments. This complexity is the result of decades of mergers and acquisitions, and the deployment of silo applications both packaged and bespoke. The companies in these industries carry many redundant applications for the same function creating a huge burden for developing new products as well as maintaining old ones.

Virtusa's platforming approach reduces redundancy and simplifies the IT portfolio for our clients. The resulting environment is lean and agile. Our value proposition resonates with these firms as they struggle in today's business climate.

Q: Which are the cities Virtusa is operating/planning to operate from?

A: Our Advanced Technology Centers are located in Hyderabad and Chennai.

Q: What is your business strategy in these key markets?

A: While Virtusa offers a broad range of IT services, for the Indian market we will be offering specialized solutions to support specific technology platforms such as business process management and data warehousing. Our experience delivering solutions for clients around the world on these platforms enables us to bring best practices to the region. In addition, we will be collaborating with technology partners in several areas to offer the best combination of technology and services to accelerate solution delivery to our customers.

Q: Recession aside, what are the challenges faced by the Indian outsourcing industry?

A: We are in a period of economic uncertainty and turmoil, affecting most businesses and industries. The Indian Outsourcing market has been impacted as clients across industries are re-examining their future IT investment plans. Specifically, clients are looking at smaller projects with shorter ROI horizons.

Despite these challenges, the industry continues to offer compelling value propositions. The Indian outsourcing industry offers a viable alternative to staffing to help contain IT costs. Virtusa offers even greater value because we focus on business outcomes as well, to help our clients achieve their strategic business objectives.

Q: What solutions do you offer to your clients facing a credit crunch?

A: In today's tough economic environment, businesses are exploring ways to optimize their operations by improving efficiencies and reducing costs. One way to help clients is to offer more iterative approaches to systems development as opposed to a more traditional "waterfall" method. Iterative approaches reduce financial risk and deliver value much sooner than serial approaches. Clients not only reduce risk, they control their rate of development and cash outlay simultaneously.

Our second approach is more aligned with organizations – and we believe there are many in this category – that desperately need to modernize and re-engineer their core business functions to stay competitive, but do not have the IT budgets to do so. For these companies we help in reducing IT costs through infrastructure optimization, SDLC productivity improvements, application support rationalization, application re-engineering/re-architecting, etc. We then assist companies in identifying business innovations in core processes that drive business and provide a competitive advantage, and use the cost savings generated earlier to execute these projects.

Q: Will Obama's new tax plan affect the Indian outsourcing industry?

A: That's a little hard to say right now. The administration is taking steps to revive the U.S. economy, but the full effects of their policies and programs are difficult to predict.

Q: What is your comment on Obama's call: "Say no to Bangalore, yes to Buffalo"?

A: It is easy to misinterpret President Obama's intent in a statement like this. He is certainly focused on the U.S. economic recovery. However, the U.S. demand for skilled IT resources far exceeds the domestic supply, so there is plenty of opportunity. Virtusa is also not averse to working with local resources to best serve our clients. We offer a global delivery model that blends onshore, near shore and offshore resources.

INTERACTIVE LEARNING and its Use in Asian Educational Institutions

BY ANURADHA SHUKLA

In Asian countries, the education system has in the past focused mainly on passive learning. In passive learning, children understand concepts by listening to the teacher's instructions. The teacher uses the blackboard to explain his or her concepts. Children have to follow the example and the information given by the teacher to understand the given subject. This form of learning has been effective, but it is more of a one-way flow of knowledge, wherein information comes only from the teacher to the children. Children may or may not ask questions of the teacher. As such, there is very little interaction between them.

Passive learning is effective for students who can observe fast and imbibe information quickly. It is very good in certain types of subjects. However, it is also possible for children to become averse to certain subjects as a result of this form of learning. This is because they may not be able to follow complicated concepts that easily. They can slip into inattentiveness in the middle of lectures and this can cause them to not handle the subject properly. Passive learning can also be boring to children. It can, at times, not induce a student to go beyond the difficult barrier in a particular subject and make a grasp of it. There is no motivation for a student to induce such interest. Children with an interest in experimenting and research can find this form of learning to be restrictive.

Though Passive Learning is not something that's a total disadvantage to each and every child, there are significant shortcomings. These shortcomings can be addressed only through Interactive Learning Methods.

As a result, Interactive Learning is gradually being introduced in schools and colleges across India to implement its vast benefits in the learning environment, in every subject. It is seen as a way of increasing a student's learning skills and interest in the subject they are learning. Interactive learning techniques have vast applicability. They can be used in learning different kinds of subject such as math, sci-

ence, languages, music and so on.

The most significant aspect about the nature of interactive learning is that it induces the student to learn and know more by working with the subject. They have to ask questions, search for answers, in short, they imbibe or understand how a subject actually works by working at it themselves. This feature enhances a student's thinking and analytical skills and makes them want to discover the subject that they are learning. Interactive learning increases a student's creative skills and this can go a long way in the manner in which they handle every aspect of their learning. It increases their learning scope and makes them more confident in their understanding of different subjects, even those that they felt were too complicated to understand.

Implementation in India

There is now a gradual introduction of interactive learning elements in the course curriculum in Indian Schools and Colleges. At the Kindergarten level, children are now exposed to the Montessori system of teaching, so that they can feel the benefits of Interactive Learning at a young age. As the child moves to primary education grade and then to high school, Interactive Learning is being implemented by having the children undertake projects on a particular topic of a subject every week.

The aim behind introducing interactive learning methods gradually into the classroom is to help children gradually change from passive learning techniques to interactive techniques. In many situations, Indian schools and colleges mix both techniques to bring in the best results in learning.

Interactive Learning Techniques

Interactive learning is implemented through various techniques. There are many types of Interactive Learning Techniques. Here is a look at some important techniques that are being implemented in Indian schools and colleges:

- * Demos – This is one of the most effective interactive learning techniques. Here a teacher shows how a particular task is to be done. Students learn the method and then do the same task themselves.
- * Interactive CD – Students can be taught using online CD's with voiceovers. They can be taught concepts using a presentation-like style, with accompanying diagrams. At the end of each module, they have to undertake a test where they have to type their answers.
- * Experiments – This form of learning makes the students come up with their own ideas on how to



solve a problem. They carry out experiments to see results for themselves. This induces them to learn more about the subject.

- * Group Discussions – This is yet another very effective form of learning, wherein students have to interact with one another and with the teacher on a particular subject.
- * Competitive Brainstorming – Here, the classroom is divided into groups that compete with each other to come up with the best answers.
- * Quizzes – After learning a particular module, asking students to take quizzes where they call out the answers makes the learning process interesting. Students who win the quiz can be given some prize.
- * Questionnaires – After a session of teaching concepts, students are asked to fill in questionnaires, where questions are posed in such a way that students have to think out answers based on what they have imbibed in the classroom. This forces the student to think through all that they have come to understand in the teaching session.
- * Presentation – Each student is given a topic on which they have to research. The researched information must be presented before the entire class. This gives the student confidence to speak before a group of people. They have to learn how to organize research information in an effective and interesting way for an audience.
- * Role Playing Exercises – These exercises really force student to think outside of the box. They have to put themselves into roles and literally live them to encounter true experiences.

Each of these interactive learning techniques is highly resourceful in helping students understand their subject of study in a much deeper way. They learn to think about the subject, experiment with concepts and see for themselves the outcome of implementing theoretical principles in actual practice. It has been seen that students become more mentally active when involved in the learning techniques listed above than in just passive learning. They have to interact with their teacher, get actively involved in learning about the subject and interact with their fellow students for projects and experiments.

Benefits of Interactive Learning

Schools and Colleges have undertaken introducing Interactive Learning techniques for several reasons. They want their students' performances to become better and on par with the challenges seen today and the high-tech demands that are visible everywhere.

Let's take an example here. A couple of year back, an important education trust in Mumbai decided to introduce ICT in the classrooms. In order to do this they purchased advanced technology to bring the benefits of Interactive Learning into their courseware. Teachers underwent extensive training and students were gradually introduced to advanced learning techniques.

Though introducing ICT and training teachers involved considerable costs, the results of such interactive learning methods proved to be really advantageous for students. This effectiveness of interactive learning is very neatly brought out by John P. Cuthell, PhD, in his essay titled "Interactive

Whiteboards Case Studies: new tools, new pedagogies, new learning?" This essay discusses how effective whiteboards are with other interactive techniques. It has been found that student enthusiasm is enhanced as a result and they imbibe even difficult lessons better through their use.

This is a fact that has been brought out in another essay on the effectiveness of Interactive learning titled "Bringing Online Learning to a Research-Intensive University," by Niall Watts, Educational Technology Officer at the University College, Dublin. In this essay, the author states that students indeed enjoy learning though interactive learning methods and this is a phenomenon that is experienced in schools and colleges all across the globe.

Since the effectiveness of interactive learning is very visible, let's take a deeper look at the many benefits of this form of learning. Interactive learning engages the interest of a student in a much deeper way. Since the teaching methods are enjoyable, they learn concepts better as their minds are more open to receiving information. They are able to conduct their own research, which enables them to expand their interest and explore more avenues of the subject they have to study.



The tools in interactive learning are of such a nature that they engage students completely in what they have to learn. For example, when interactive whiteboards are used, students are able to concentrate more on the lessons being taught through the board because of the way in which this medium presents it. Interactive learning can go a long way in building a student's confidence in even the most difficult of subjects by forcing them to come on their own in learning them, through tools which make the subject interesting. They retain much of what they learn and revisions require a small amount of time. This is because the interactive learning methods forces students to imbibe concepts as they are taught. In each step of the learning process, they have to give their input and feedback, forcing them to pay attention to what is being taught, so that they can do this effectively and correctly.

Interactive Learning in Math and Science

Two of the most difficult subjects to learn are math and





science. This is because there is considerable complexity in the concepts that have to be learned in these two subjects. Most often, students fail to attempt certain topics in math or science because they fail to grasp basic concepts here. As a result, they fall back in their studies and may even lack concentration in attempting them. Interactive learning enables them to overcome their shortcomings in such subjects and be on par with everyone else in them.

Let's take an example of how interactive learning can be useful in teaching mathematics concepts. Interactive learning tools such as computers, lessons and use of whiteboards can easily explain certain mathematical concepts in a clearer way. At the end of the lesson, the student has to answer or type out answers to questions based on concepts taught during the session. As a result, the student thoroughly learns the concepts that they have to understand.

Interactive learning can be used to teach several mathematical concepts. It can be used to teach lessons on topics such as whole numbers, geometry, decimals, measurements, statistics, proportions and so on. The use of games and puzzles will make students want to take up learning their lessons even more. Such games, when held in the classroom, enable students to mix with each other as well as the teacher and this forces them to fully understand the mathematical concepts that are being taught. The use of animation sequences alongside concepts is a really good way of making students understand how the subject really works. For example, concepts such as relative speed, pie chart, perimeter and so on, can be easily taught using animation sequences that depict in a more realistic way how these concepts apply in real life situations. This feature helps students understand math as not just a bunch of sums that they have to do, but understand how the many concepts of math apply in real life situations.

Just as mathematics can be taught through interactive learning sessions, similarly science can also be taught using this learning method. In fact it is most apt for a subject like science. In the case of a subject like physics, using animation to explain concepts such as gravity, force, movement and even the derivation of complex formulas, brings the best results. This is because animation, alongside whiteboard tools makes such concepts more enjoyable for students. Each topic is broken into smaller subdivisions that are made easy-to-understand through simple explanations which uses real life examples to bring out how it can be implemented in everyday life.

Asia is not really new to the interactive learning methodology. It was in China that the abacus system originated. The induction of abacus learning across Asia in recent times is the element that ushered more of the interactive learning concepts into the region. Abacus learning focuses on whole brain development. Students who have undertaken abacus learning show better aptitude in solving mathematical problems and show a greater degree of confidence in taking on different subjects.

Moving from the abacus system to teaching math through interactive learning, an interesting example of an online math-learning program is the one given by Hey Math! You can see mathematical concepts being explained through animation sequences. You can find some of the most difficult math concepts explained in the most simplistic of ways. This fact about their interactive learning course applies to not just preliminary level math, but also to advanced mathematical concepts. By going through courses applicable for every standard, students will understand mathematical concepts beginning at the fundamentals. Each mathematical course is for sale individually and can be purchased online at www.heyath.com. Many schools across India and Asia have already started to implement the HeyMath! courseware in their curriculum. After implementation, many school heads have sent posi-

Asia is not really new to the interactive learning methodology. It was in China that the abacus system originated. The induction of abacus learning across Asia in recent times is the element that ushered more of the interactive learning concepts into the region.

tive feedback on the effectiveness of the HeyMath! courseware.

One program that is seeking to introduce this form of learning from a much wider angle is Classteacher Learning System. This is an education company with more than a decade of experience in the education area. They have more than 500 schools and they give guidance on the use of latest technology solution on the school arena.

Class Teacher Learning System has a program called e-patshala, which seeks to incorporate the latest technology into the education system right from kindergarten through the 12th grade. The e-Patshala program covers every subject of learning including math, science and language. It offers informative details on how to use interactive learning in the best possible way for not just teachers, but also students. Their portal, www.classteacher.com, gives full coverage and encourages teachers from various schools to sign up and learn how their new solutions work.

As is evident in the above examples, interactive learning systems are spreading their wings into educational institutions at all levels in India. With technology being so easily accessible, it is gaining a sure foothold and becoming popular with both teachers and students. Consequently, many companies that provide such learning systems have also established themselves here. These companies provide state-of-the-art solutions to educational institutions across the country. Here is a look at some of the important ones:

- * Binary Semantics – They offer the latest e-learning solutions. Visit <http://www.binarysemantics.com> for more details.
- * Techno Score – They offer some of the most unique custom-developed e-solutions that can revolutionize the existing education system. Visit www.technoscore.com for more details.
- * i-net solution – They seek to bring innovative e-learning solutions using some of the latest technology. Visit <http://www.i-netsolution.com> for more details.
- * Net Solutions – They provide the latest e-learning solutions. Visit <http://www.netsolutionsindia.com/services/e-learning.html> for more details.
- * Libra – They offer highly interactive e-learning solutions. Visit their <http://www.librainteractive.com> for more details.

These are some of the many companies in India that provide technology solutions for the e-learning environment. The presence of such software development highlights the importance that the Indian education system is placing on interactive learning and how it is being slowly implemented across the country. In the future, it is likely students will be only using interactive learning methods in all levels of education and this will bring about higher learning levels and greater knowledge for students all over.



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COMMODITIZATION of CONNECTIVITY

B.K. SYNGAL

If there is a success story in the 60 years of independence that has metamorphosed India onto the world stage and has benefited the common man, knowledge based services and the elite of society, it is the fourth dimension of transportation TELECOM; after Land, Sea and Air.

Not only is telecom connectivity an important part of the effort to upgrade the national infrastructure, but it is also required to establish India on the global map. The telecom industry is capitalized at a mind boggling US\$300 billion when about 40 percent of the geographical area, 60 percent of addressable market and yet only 25 percent of the population is the beneficiary, compared to the world average of around 50 percent (some 3 billion phones world wide). What has caused this explosion, which was inconceivable even 10 years back?

Technology, Applications and Regulation

The constellation of these three has brought in competition, bringing in affordability and increasing usage, thereby resulting in the commoditization of telecom.

From an abysmally low tele-density of less than 1/10 of 1 percent at the time of independence it has touched 25 percent (most of it, though, in the last 15 years). I remember as a child that having a phone at home meant that you were someone of very high standing in the society or a very senior government executive. From "Aap qatar mein hain, kripya pratiksha kijiye," which literally translated means "you are in a queue, please wait;" we now have qatars (queue's) of telemarketers bending over backwards to offer you mobile phones.

All of this commoditization is the end product of the evolution or emergence of regulation, technology and applications in telecomm.

In days gone by it was pretty normal to wait 12 hours for a phone call from Delhi to Jaipur or calling my fiancé

from the jungles of Assam, the hilltops and

valleys of J&K (while installing microwave stations in the mid 1960s) to Calcutta or any other place, and that, too, after walking some miles either to a post office or to the high and mighty. The joke used to be that if you wanted a phone for your ward, book it when you got married; 10 to 15 years was the norm.

It has all changed for the benefit of the common man, society and India. Connectivity has brought jobs and an increased knowledge-based export of services. For example, in 1991 the knowledge-based export used to be about US\$40 million and today it is about US\$40 billion. Knowledge-based industry has generated employment for millions of our youths.



alone knows how many. From a meager few megahertz (bits) in 1991 to terahertz (bits) today, resulting in a switch from hours of wait time to get connected to connectivity in the blink of an eye. The connectivity has evolved from 90 bits per second in the 19th century to 90 terabits or so in the 21st century.



How did all this happen, emerging technologies, miniaturisation and their applications? We moved away from wires strung on poles to coaxial cables, satellites, fiber-optic cables and from analog to digital connectivity resulting in many-fold increases in capacities for both domestic and international digital connectivity?

Internet, international connectivity has increased from some 2,000 simultaneous conversations to god



Rural Connectivity-The Future



Applying Technology to reach out to the Masses

However, it is still a concern that connectivity has not yet reached the depth and breadth of India and many parts of the world as much as we would like to have it connected. There exists a significant rural-urban divide in addition to the digital divide. There were plans to provide a phone for every village, something that has been talked about for nearly two decades, however it is my belief that this has still not been achieved in its entirety. The government has stated that under the Bharat Nirman Programme, it will be ensured that over 65,000 revenue villages in the country, which have not yet been provided with a Village Public Telephone (VPT), shall be covered, and assistance for both capital as well as operational expenditure for these VPTs will be met out of the Universal Services Obligation Fund (USOF). The goal was to achieve this by the end of 2007. I think we still have some way to go. The technology exists, but the will to apply technology to reach out to the rural and agricultural masses does not. This is entirely due to a warped regulatory mindset of the policy makers.



Rural connectivity has the potential to bring enormous benefits to the telecoms sector on its own and to the economy of India as a whole. Seventy percent of India is rural. Giving access to a human being of any kind has the potential to unravel the power of human innovation and entrepreneurship. Rural connectivity will not only provide a growth engine for the telecom industry, but at the same time there will be improved opportunities for our rural people. Telecom connectivity will act as a catalyst to better education, bring improved market access for their products, provide improved employment prospects and provide for greater purchasing power in their hands. As an example, connectivity sent quality grapes of Narayangaon, an obscure village in Maharashtra, to the shelves of Sainsbury in the UK in 1993. All this is because of the conversion of telecom from being an elitist's tool to a common man's support.

Connectivity has become that vital tool in the hands of every discipline; health, medicine, agriculture, entertainment and technology. Connectivity has provided that flow or transportation of information at the speed of light, which has changed the way we live, think and execute; yearning for more of the same with each passing second. One may live without food, but without connectivity everybody feels helpless.



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International Connectivity - The Bridge to Globalization



We at VSNL had the foresight and vision of the need to bridge the digital divide in the early 1990s when India decided to open up. Against all odds, VSNL invested in state-of-the-art digital under-sea cables SEA-ME-WE 2, FLAG, and conceived a cable system called Optical Amplifiers Submarine India System (OASIS) to skirt around India from the Gujarat

Coast to Kolkata with access to Bangladesh, Sri Lanka, Myanmar, Pakistan and the UAE. That project would have provided international access to the entire country and all of the countries mentioned above. Alas, the bureaucracy and the private sector in unison killed the project, because they saw immense opportunities in the project. The same has been picked up in bits and pieces by the private sector in putting together the project OASIS or Jalmala. Leading on from that, the following is what ensued.

The global telecom industry went through a period of turmoil during the early part of the new millennium. The domestic Indian market was largely protected from this due to the growth phase that it was in. However, as an example, some very large undersea optical fiber network players got overextended and in financial trouble. A number of Indian giants saw these distressed assets as an opportunity for India and they bought them at reasonable prices. Reliance ADA Group bought FLAG Telecom of the UK; and Tata, through its VSNL subsidiary, bought Teleglobe of Canada and Tyco Global Network of the United States.



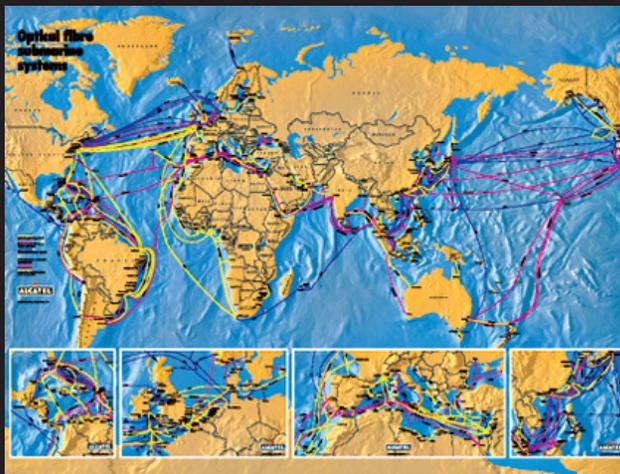
90 bits per second cable system of the 19th century

These acquired companies are now once again major players in global networks. Now that the global capacity glut has been worked off, prices for bandwidth are once again on the rise. This means that the Indian telecom industry has the opportunity to have the same kind of disruptive effect on the global telecom industry that the country's software industry is having on tech services.

The potential for Indian companies to connect countries in SE Asia and Africa that so far have been on the other side of the digital divide with global connectivity encircling the whole globe with fiber loops has huge implications for developing nations. This means everybody

gets equal access to bandwidth. Indian companies are contributing to the global economy, as now there will be an opportunity for other emerging nations to have a shot at the global economy just like India did a decade ago.

With high quality international and national telecommunication networks and world class IT and management professionals, India has become one of the most preferred destinations for sourcing software and IT enabled services. In comparison to other low cost locations, India ranks high in several critical parameters including the level of government support; quality of the labor pool; English language skills; cost advantage; project management skills; entrepreneurial culture; strong customer relationship; exposure to new technologies; the industry's strong focus on quality software and processes; Institutes of Science and Technology; and R&D laboratories. However, more needs to be done to develop the R&D environment. Enabling further industry collaboration with our premier institutions of higher learning will augment the talent pool for R&D and in turn facilitate development of state-of-the-art technology. This is needed not just to benefit the global economy, but to also promote country-specific innovation.



90 Terabits per second cable system of the 21st century

We are on the brink of a revolution in India. Indian companies are enhancing their global service delivery capabilities through a combination of green field initiatives, cross-border mergers and acquisitions, partnerships and alliances with local players. Telecom connectivity is at the heart of this revolution.

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Regulation - The All-Pervasive Essential

Proper regulation is especially important in telecom as is the importance of intellectual property and industry standards. Global rules of the game have traditionally been set largely by the U.S., together with Europe, with others coerced and cajoled to go along. But the developing countries are beginning to resist and this is leading to increasing divisions within the developed world about what should be the rules of the game. Success has always entailed trying to shape, understand, and take advantage of a "regulatory" environment. This will continue to be case in the future. However it will be more complex both politically and economically. There are risks and uncertainties about future directions of the global economy and this will require diversified approaches. The guiding principles will still focus on more openness, less protection, more competition.

This is an area that India has been slow to react to. Technological evolution or emergence is irrelevant in the absence of proper regulation. For close to 50 years we suffered from no regulation because of a government monopoly and a vice-like control in the telecomm sector. It was in 1997 when the Telecomm Regulatory Authority of India (TRAI) was set up to strike a balance between a government monopoly and private sector companies. Had that not been done, the fruits of technology and applications would not have been possible for bringing in the commoditization of telecom connectivity.

At present, regulatory issues related to telecom in India are in the process of maturation, most tariffs are forborne providing healthy competition. There are remnant issues of spectrum pricing which are getting resolved to be in line with international best practices to establish the true economical value of this scare national resource. Hitherto,

2G spectrum has been allocated along with the license and seems to be leading to huge losses to the public exchequer. The low price at which the spectrum has been available has led to huge qatars of companies wanting to join the telecom race and make huge profits overnight. This anomaly, some policy skew and a large number of applicants have also led to uncalled-for battles about who is first in the queue to get spectrum from amongst the new applicants.

Nonetheless, this seems to be set to change in the backdrop of a clarion call by none other than the Prime Minister to allocate this national resource in an equitable, fair and transparent manner, keeping an eye on the revenue generation potential. Pressure from various quarters are turning the policy on its head and 3G spectrum is headed towards auctions, a well established global practice. This would indicate maturation of the Indian telecom sector and also lead to the true economic value of spectrum to accrue to the public exchequer, which can be further used by the government for social purposes. Success has always entailed combining local and global knowledge and best practice. As the Indian telecom industry and the regulatory environment develops and matures, Indian policy makers should push for a larger say in global matters.



Conclusions

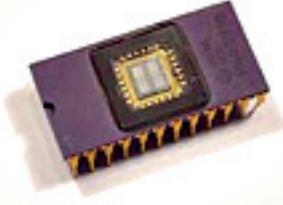
I can't say that I have seen it all in my 67 years of life, perhaps not having been at DOT, but I have always been at the cutting edge of technology to provide connectivity since the 1960s in Assam, J&K and Rajasthan, at Inmarsat for providing connectivity to ships, trucks and airplanes, at VSNL to bridge the digital divide, at Reliance for creating their Infocom blue print and finally at BPL for the final commoditization of connectivity.

This scorching pace of commoditization will continue because of the unquenched thirst for the acquisition of information. Therefore, I can say that after 45 years of providing connectivity, as for what connectivity will look like in the next decade and what more it will do for society, it's anybody's guess – maybe the proverbial tip of the iceberg for what is yet to come to stay connected in future.

For me I saw the tip of the iceberg about 50 years ago to the day, when I took up Electronics and Telecom as my chosen subject of study when everyone went after mechanical, civil, electrical and metallurgy. Those were the days of thermionic valves and the impact of William Shockley's discovery of the transistor had just about started making waves.

In these 50 years, either the tip of the iceberg has grown or the iceberg beneath has grown or both, because the growth in telecom and its applications in everyday life seem to be increasing with each passing day at an unrelenting pace. What future holds for connectivity; only those connected perhaps can tell. Even the best of crystal balls is too cloudy.

All I would say is "Lage Raho (carry on)" for the next stage of prosperity, to be fuelled by regulation, technology and applications. Telecom is that mean or dimension which alone will bring all-around inclusive growth in all strata of society, not only India, but in those unconnected parts of the world across continents.

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|  | <p>The Thermionic Valve and Transistor</p> |
|  | <p>The Chip (millions of Transistors)</p> |
|  | <p>The Old Telephone</p> |

THE WELLER SIDE OF LIFE

BY TRACEY STARK

Every so often a new “healthy living” trend will come along and sweep people up in a frenzy. While most of these fads die a rather rapid death, some manage to stick around because of the hard work of marketing geniuses.

Think of all those useless contraptions sold on late-night television designed to give you the “ultimate workout.” Most households have one or two of these things in a closet somewhere or perhaps being used to prop open a door.

Oxygen bars popped up in cities all over the world a decade back. Then, when people realized that they were already surrounded by oxygen, they stopped paying \$20 to sit in a room designed for breathing.

The same can be said for diets. Low-carb, no-carb, high-fat, all-fruit, all-popcorn, all-bacon, no-taste, the list goes on. And as with every other trend, they have come and gone, replaced by the next big thing.

Then, in 2003, a private economic think tank in Korea advised companies that the new “well-being” trend was going to be big. It was even chosen as the management keyword for 2004.

In the beginning, this trend seemed to be based on the consumer’s best interests. Foods with all-natural ingredients were being marketed more. New healthy drinks and negative-ion air purifiers popped up everywhere. (Why would I want more negative anything in the air, let alone ions?)

But then, somewhere along the way, something went terribly wrong. Products began appearing, seemingly out of nowhere, touting their “well-beingness” when the relationship was tenuous at best.

I first noticed it more than a year ago when a new restaurant was going up in my neighborhood. The sign in front of the construction site said the diner was going to be called, simply, “Well Being.” Hopeful that it would be a vegetarian restaurant where I could take my girlfriend, I was anxious for its opening.

Within a month the restaurant opened and I excitedly ran up to the window to read the menu. The main dish at this shop was samgyeopsal (basically chunks of pork that are about half meat and half fat). Plastered on some of the walls inside were posters promoting soju, Korea’s favorite liquor. To say I was confused is a bit of an understatement.

As time went on, more examples of this well-being bizarro world appeared. Newspaper were writing stories and promoting goods like well-being refrigerators, well-being



cell phones and even well-being sneakers for old people. We used to call these shoes “orthopedic.” But I guess you can’t expect to keep pace wearing a pair of orthopedic shoes.

It all came to a head for me when the Doosan beverage company introduced a well-being soju. It contains 20 percent alcohol, versus the normal 25 percent alcohol content.

By promoting booze as “well being,” they more than doubled their market share. It started to make sense to me. Apparently, it’s all about the money.

And it gets better. An editorial in a local English language newspaper written by a foreigner living in Seoul sounded frighteningly like ad copy for a cigarette company. In it, the author describes her discovery of a new low-tar version of her favorite smokes, designed, she said, in the spirit of the well-being trend with the health of the consumer in mind.

“It being winter, and feeling especially “fresh” from my Pilates workout and two-hour visit to the local sauna, I decided to try the menthol variety...” she writes. Her blather about this particular brand of cancer stick continues: “...it took amazingly little time to adjust, and after several weeks, I’m already feeling the benefits of smoking a lighter cigarette, not just physically but mentally as well, for having taken yet another step towards a better, brighter me.”

Still, my favorite is of a business owned by a former friend of my girlfriend. He was allegedly in the Korean mafia (which we all know doesn’t exist) and decided it would make good PR sense to call his new enterprise “Well Being Concrete Co.”

But, as I’ve pointed out already, all good things must come to an end. So, in order to promote a smooth transition to the next commercially-viable trend, I am going to suggest a replacement for the “well-being” fad: “Psychiatry.”

Think of the possibilities.

But then, somewhere along the way, something went terribly wrong. Products began appearing, seemingly out of nowhere, touting their “well-beingness” when the relationship was tenuous at best.



Accentuating Global Opportunities

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7 LUCK HILTON POKER ROOM

7 Luck Casino Poker Room has opened at the Millenium Hilton Casino in Seoul - May 15th, 2009 providing cash games and tournaments for players from Korea, Japan, China and the rest of the world.

Our cash games will include a variety of table stakes for different players, including USD .50/\$1, \$1/\$2, USD \$2/\$5, & USD \$10/\$20 No-Limit Texas Hold'em Poker tables. Fixed-Limit and Pot-Limit games are also available upon request. In addition, corporate and social groups have the option to hire an exclusive private room within the 7 Luck Casino for private functions. Bookings will initially be available Thursday to Sunday and can incorporate a poker tournament and a variety of accomodations and/or food and beverage packages. If you have any questions about the 7 Luck Hilton Poker Room, please visit our website www.7luckpoker.com or call the poker room direct at 010 457 POKER.

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