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CHUNG'S LEGACY Surpasses Dreams

CHUNG JU-YUNG

Founder and Honorary Chairman of the Hyundai Group

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CHUNG JU-YUNG

LEGACY SURPASSES DREAMS

BY YOO KWANG HA

It has been nine years since the death of Chung Ju-yung, the founder and honorary chairman of the Hyundai Group, but his legacy lives on. Chung passed away in May of 2001, leaving behind one of the largest multinational conglomerates in South Korea, which continues to succeed after his passing, even after being split into many satellite companies in the 1980s. He made his name attempting to reconcile the two Koreas, developing the first Korean car, and being instrumental in developing a non-dock ship making method with Hyundai Heavy Steel Company and many other greats which Korea boasts as its own today.

Photos Courtesy of the Hyundai Group

Cover Story

The story of Chung Ju-yung's rise to prominence is remarkable, and very much related to the continued success of his company and his country at large. Chung Ju-yung was born the oldest child of six in 1915, in Tongchon, Gangwondo, during the Japanese occupation of Korea. His burning desire to do something better than what he was saw him become a successful businessman, despite a foreign occupation and a civil war during his lifetime.

Chung ran away from home to work in the big city when he was young, and had a succession of jobs as a dockworker, a deliveryman, an accountant and a mechanic, all at the objections of his farmer father. He saw several rises to success, and several falls from grace, due to occupation and war. But the man didn't give up, and managed to turn his businesses into some of the most successful in the world.

When people refer to Hyundai as a conglomerate they are not exaggerating. The company has expanded into a dizzying array of enterprises. What started out in 1946 as Hyundai Togun, or Hyundai Engineering and Construction, has today become an eight-company conglomerate consisting of Hyundai U&I, Hyundai Research Institute, Hyundai Securities, Hyundai Merchant Marine, Hyundai Logistics, Hyundai Elevator, Hyundai Asan and Hyundai Construction Equipment India Pvt. Ltd. Also mixed up in a rather complex set of shareholding arrangements are Hyundai Kia Automotive group and Hyundai Motor Company. Hyundai Motor Company is the most visible of these many companies and is the de facto representative of the group itself. This huge tangle of similarly-named companies is the third largest such group in Korea.

Chung ran away from home to work in the big city when he was young, and had a succession of jobs as a dockworker, a deliveryman, an accountant and a mechanic, all at the objections of his farmer father.

Hyundai Motor Company made headlines in 2008 as the only automotive company that made a profit during the global financial crisis. This was mostly attributed to the excellent marketing strategy of offering to take back any car from a new owner who lost their job. With an assurance like this, consumer confidence in the company was higher than any other car company. Also, the company's steadily-rising quality reputation didn't hurt either. In a recent study in Britain, for instance, the Hyundai i30 was voted to be the most satisfying car to own. More than 23,000 buyers participated in the survey, in which the car beat out the Jaguar XF and the Skoda Octavia. Hyundai was the first Korean automaker to win the annual survey. Another study by Kelley Blue Book says that Hyundai is first place in brand loyalty, with 56.3 percent of its current customers saying they will buy again.

As if all that good news were not enough, Hyundai Motor has also experienced record sales in the United States and China in the first quarter of 2010. Sales in China were a full 47 percent higher than they were in the same quarter in 2009, while in the United States, sales were up 15 percent. "Given the tough incentive and promotion competition by stronger rivals in the U.S., I think Hyundai's U.S. March sales were superb," said Kang Sang Min, an analyst at Hanwha Securities in Seoul. This is a good step in the direction of meeting the current Hyundai Motors chairman's goal of raising global sales by 17 percent.

Hyundai Steel Company has also made headlines recently by starting its first-ever integrated blast furnace in the city of Dangjin. The furnace was in construction for three years. This increases the capacity of the company to deliver steel products at the perfect time – when demand is rising. "The furnace is built with environmentally-friendly technology and facilities," said Hyundai Motor Group chairman Chung Mong-koo. The steelmaker is also constructing a second blast furnace. The completed mill can now create 4 million tons of steel products per year. When the second mill is finished, together they will be able to pump out 8 million tons of steel. A third furnace is planned to be finished by 2015. This means that POSCO is no longer the only South Korean mill to make steel from blast furnaces. It also means that Chinese steel manufacturers will receive less business from Hyundai Heavy Industry in the coming years, as they can simply get the steel that they need from their sister company. Finally, this has more than doubled Hyundai Steel's shares, since the two furnaces will be replacing about US$8 billion worth of imports per year.

In the United Arab Emirates, Hyundai Engineering and Construction just recently won a joint contract with Samsung C&T to build a nuclear power plant. Hyundai Engineering will receive approximately $3 billion from the contract. The construction is said to have already started and will continue until May 2020. This is the result of a deal between UAE officials and KEPCO for a $20.4 billion deal to design, build and help run four nuclear power plants from 2017 to 2020. Hyundai Engineering and Construction has also won other projects overseas recently. In 2009 it was awarded a $594 million design-and-build contract for a series of underground oil storage rock caverns in Singapore. The first of the caverns are expected to be ready in the first half of 2013, and be completed in 2014.

Work with India has also stepped up for Hyundai Group since the Great Eastern Shipping Company, one of India's biggest private ocean carriers, has ordered three new supertankers from Hyundai Heavy Industries. While the price of the tankers wasn't specified, one can easily speculate. Currently it costs approximately $90 million to construct a tanker, and while prices crashed during the global recession, they used to be $160 million per supertanker. These three ships are said to be the key to Great Eastern re-entering the oil supertanker market. It had sold one of its existing ships two years ago in an exit from the market, but seems to be making a resurgence. Both India and China have been utilizing this Suezmax class of super tanker, so named because it can cross the Suez canal with a full load. Oil refineries have been favoring this type of tanker, because they can ship larger quantities of oil at one time. Since India imports approximately 75 percent of its crude oil, the purchases make sense. And its good news for Hyundai's new steel mill as well.

Did Chung Ju-yung ever imagine that his humble beginnings would spawn such a world-spanning enterprise? Now it is too late to ask. But his 20th century rags-to-riches tale and the company that it created are larger than anything anyone expected. Hyundai is just doing things right and great, and shows no signs of slowing down. A-P

Q&A

KARNATAKA CALLING

Asia-Pacific Business and Technology Report was able to speak with **Murugesh R. Nirani,** minister for large and medium scale industries in the state of Karnataka, India, when he visited Seoul with a delegation to promote investment in Karnataka in mid-April.

BY STAFF REPORTER

Question: Karnataka is known as a knowledge hub of Asia. What policies has the government of Karnataka taken to become this hub?

Answer: Yes, nowadays Karnataka is a knowledge hub. Our government is a stable government. In the IT sector, it is still the Silicon Valley of India. Everybody knows that the IT sector is in Bangalore. But in the 80s, when the place was just set up, we had Karnataka State Finance Corporation. It was a state funded finance company which gave loans to Infosys as one of the ways to promote industry in the 80s. It gave loans to IT companies and subsidies to manufacturing companies.

Also, we set up the first software technology park in the 1990s with the help of the government of Singapore. The software technology sector of India was established to promote connectivity to the IT industries. We set up and established it in Bangalore first. Karnataka also has a history of education in the private sector. The first college was set up in the 1950s. Today we have 153 colleges, because in the 60s, 70s and 80s we gave funds to the private sector to set up colleges. Because of that, nearly 45,000 engineers enter engineering colleges every year. So the 70s, 80s and 90s supplied the manpower that is now the IT industry. Texas Instruments was the first to set up in Bangalore in the 80s, one of the first companies. After it came Infosys, then Wipro, then TCS. To polish their personnel they sent them to Silicon Valley, and then they came back and set up companies in Karnataka.

To support this, in Bangalore we developed the Electronic City. We also set up KEONICS. We established the infrastructure, the connectivity, we established the software tech market with foreign investment from Singapore, started acquiring land, and then created incubation sectors in Electronic City. So this proactive role of the government did help a large number of companies to be established and to grow big. We also started giving export awards for industries – some incentives, some support, some cooperation was there from the government for these companies from the very beginning.

Q: What difficulties would a foreign company experience in expanding to Karnataka, and how can you help smooth these difficulties?

A: We have some constraints in power supply. In the presentation today we mentioned a 15 percent shortage of power. In Bangalore there is less, but all over the state there is a problem. But we are setting up a large number of power projects to mitigate this problem.

Also, the cost of land can be a problem, because Bangalore is the fastest growing city in Asia, so the cost of land has gone up. Therefore, we are asking IT companies to go to Mysore and other cities in the state. Or to go to the outskirts of Bangalore rather than the center of Bangalore. We have acquired 1,000 acres of land next to the Bangalore airport where we are giving cheaper land to investors. Our airport itself is 35 km from the center of the city, so if you go 35 km away from Bangalore, the cost of land will come down drastically. So, while land cost has been an issue we are addressing that as well.

The cost of manpower is another one. Because a large number of companies are coming into Bangalore, the cost of hiring is going up, at least compared to other cities in India. So we are trying to lure investment to other cities so that the cost of manpower will go down. It is about 30 percent cheaper outside Bangalore than inside Bangalore. Other regions would benefit from the development as well. There are many opportunities to invest in the power sector, for instance.

Q: Can you speak more about the land bank that the government has set up? How does that work? Will there be angry farmers protesting the land sales?

A: There are 50,000 acres of land already designated. Approximately another 50,000 acres is in the final stage of becoming available, so altogether it is 100,000 acres. This land is not only in Bangalore, but also in other cities. Maybe about 10 percent of the landowners are unhappy and are asking for higher compensation. We have acquired more than what we need so maybe protests or difficulties will dock 5 to 10 percent off the final amount. Also, depending on the demand during the Global Investors Meet we can acquire more land if necessary.

During the Global Investors Meet, we will provide services to investors if they want to check out the land that is available. If they come early, we can match them up with a guide who will take them to the actual land and back. Two hours drive from Bangalore we have 10,000 acres available. We will take them to the place and show them the land if they are interested. We are also setting up a global financial district near the airport. About 50 acres is already given to infrastructure, for IFCA has already been given the land. We will also develop an industrial township next to the international airport, so people who work in this industry will still be nearby. Bangalore will be about 30 to 35 km away. About 250 acres of land will be earmarked for this township near the airport, and if investors want to see that during the Meet, they will be able to.

Q: Can you tell more about what will be at the global investor's meeting in June?

A: We are expecting to attract investors from June 3-4. We have the facilities now that we need: land, water and power. We are hoping to attract $40 billion to $50 billion in investment this year. Important sector are steel, cement, power, fertilizer, chemicals, food processing, infrastructure and IT. We expect some companies like Arcelor Mittal, the number one steel manufacturer. Now, the company is producing about 6 million tons of steel. We expect them to invest about $6 billion at the event. At the same time, POSCO is also interested in a similar project and similar investment. Yesterday we had a meeting with POSCO executives, and they said that they will make a decision about the project next week. They have gone to see the sites and applied for a mining release. Also, Shell is setting up an R&D sector in Bangalore. Laforge, the largest cement manufacturer, will also attend the event and do some investment. Altogether, we expect about 500 companies are going to attend the investment meet for those two days. It might become over 1,000 companies, but we only expect about 500 investors from the event.

The event will be attended by central ministers, commercial ministers and enough government people to make sure that everything is taken care of. We are planning to consider proposals during those two days. Companies can submit proposals then, and we are planning to hold a high-level committee meeting on June 4 to consider the proposals and approve them right away.

We are also having sector-specific seminars during those two days. Like aerospace, automobile, biotechnology and others. There will also be an exhibition of the different product sectors manufactured in Karnataka. Each sector, like for instance tourism, will showcase what is going on in Karnataka. Not only what tourism projects are offered, but also what has been manufactured here, like aerospace manufacturing components are already manufactured in Karnataka, so they will have an idea of what can be done in the state.

Q: Your project near the airport in Bangalore is reminiscent of the New Songdo City project here in Korea, near Incheon International Airport. You have made Karnataka into an excellent technology hub, and have many other strong industries there. Can you give any advice to other countries who are trying to do the same thing?

A: You must allow for thoughts from outside. People from other countries and other states should feel welcome in your country. Karnataka has several Fortune 500 companies and their executives are living in Bangalore, not just visiting. They live there permanently. So we have a strong, multicultural society in our state. I believe that we should build a multicultural society like that in every country. We should invite and welcome people from other countries and act as if it is their land too. We should, of course, respect other people's cultures and religion. We have a saying in India that a guest is like god. We should treat them with respect, so that they can stay there and grow there. We have another saying in India, which is that the whole universe is our family. The concept of the universal brotherhood of universal family should be present in any culture. We should not build walls around us. Or, even if there are walls, there should be doors and windows for new ideas and thoughts to come in. A-P

WORLD

SOUTH KOREAN NUCLEAR ENERGY PROGRAM

BY DONALD KIRK

North Korea gets the headlines with sensational reports on its nuclear weapons program, but South Korea also is a nuclear power. The difference is that South Korea's four nuclear complexes produce nuclear energy, not nuclear explosives, and South Korea is well on its way to emerging as one of the world's biggest manufacturers and exporters of nuclear reactors. South Korea's success as a major producer of nuclear energy, however, inevitably arouses suspicions. Might South Korean scientists and engineers want to compete with North Korea in fabricating the material needed for nuclear devices?

The specter of a nuclear arms race on the Korean peninsula touches raw nerves around the world, nowhere more so than in Washington. The reason is that South Korea's policymakers would dearly like to get rid of the deal worked out between South Korea and the United States nearly 40 years ago that keeps their scientists and engineers from reprocessing spent fuel rods – a step, some say, to extracting fissile material for nuclear warheads.

The question of what to do with the fuel rods is fast reaching critical mass. South Korea wants to reprocess rather than store them despite the ban imposed by its nuclear cooperation agreement with the United States. But will South Korea then be able to produce plutonium for warheads? That's the great question that negotiators face as they engage in secret talks, all against the background of efforts at getting North Korea to do away with its own nuclear program, dedicated to nuclear weapons, not nuclear energy.

South Koreans disavow any ambition other than a desire to extract more uranium for fuel for nuclear energy reactors and then bury the residue. U.S. and Korean officials agree the whole topic is too "sensitive" to discuss openly. The talks are "technical" and "complicated," says U.S. ambassador Kathleen Stephens. "Both our countries support the global growth of the peaceful use of nuclear energy," she tells an influential Korean audience. "We will continue our cooperation to guarantee the safety and proliferation-resistance of nuclear energy."

Americans ask, however, how much faith to place in denials of nuclear ambitions while North Korea refuses to get rid of its nuclear weapons program. The United States insisted on banning reprocessing under the U.S.-Korean nuclear cooperation agreement of 1972 to frustrate the dream of South Korea's then president Park Chung-hee for the South to become a nuclear power. That agreement expires in 2014, but it's far from clear if the United States and South Korea can resolve their differences by then. What if pressure mounts in South Korea for a deterrent while North Korea produces ever more fissile material, already estimated at enough for six to a dozen warheads, and conducts more underground tests as it did last May and in 2006?

"Does the U.S. want to treat us as a criminal," responds Kim Tae-woo, vice president of the Korea Institute for Defense Analyses. "Our concern is not to build a nuclear bomb, but how to dispose of spent fuel rods. If the U.S. government continues to oppose us, that will hurt our sentiment." Koreans try to allay suspicions. "We do not want to use the word 'reprocessing,'" says Choi Jung-gae, director of the nuclear policy division at the Ministry of Science and Technology. "We prefer to say, 'recycling' or 'reusing.'"

The difference is more than semantic. "We do not want to produce

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Standing Outside the GREAT FIREWALL OF CHINA

BY MATTHEW WEIGAND

Google stands today outside the wall, the Great Firewall of China. It is no longer a privileged citizen of the Empire, but now just another barbarian at the gates. Its business relationships are altered, its search results are blocked and its reputation has irrevocably changed. Whether that reputation has changed for the better or worse is the question now. But Google didn't really have a choice to make. When your entire business model is based on the free exchange of information, there are some inevitabilities to deal with. With a careful analysis, one could say its hand was forced. But before we get into that, what has Google been up to since I first covered their decision in January?

Just the Facts

Its been three and a half months since Google posted an entry on its official blog criticizing the Chinese government for civil rights abuses, and detailing a large-scale hacking attempt originating in China, which targeted Google's corporate infrastructure. Google is now no longer operating a public presence in mainland China, having closed its www.google.cn site and redirected its traffic to www.google.com.hk, its Hong Kong site. However, the company will still maintain a sales office and a research and development department in mainland China. This is a result of Google's decision to no longer censor its search results in accordance with the Chinese government's wishes. The Hong Kong site offers uncensored search results in the Chinese language.

However, the Chinese government is happy with the change, and some rumors suggest that the government suggested the move. Mainland Chinese can still access the Hong Kong site, which allays the fears of some who thought the Chinese government would completely ban access to Google's search page, as it has with Google's Blogger and YouTube services. Users of the Hong Kong site have reported that they are not able to follow links to some websites listed in search results for sensitive topics. Also, access to google.com.hk was blocked entirely for some users after repeated searches for sensitive information, but restarting a computer seemed to restore access. This is the same way that China deals with Google's original site now, google.com. It seems that Google is now officially back on the outside of the Great Chinese Firewall.

This has impacted other companies in China who were working closely with Google, such as Sina.com.cn and Ganji.com. The two companies are web portals that use Google search bars on their websites. The Chinese government issued a statement in March saying that companies like those who work with Google would have to prepare for the day when Google would no longer be available. Sina.com.cn has since switched its bar to work with Google's Hong Kong site. While Ganji.com still says below its logo that it is a Google strategic partner, there currently is no apparent sign of a Google search bar on their site. Besides that, 27 companies signed a letter that was sent to Google China and posted on Chinese state broadcaster CCTV, asking what Google was going to do about the companies' risk of failure when Google pulled out of China. However, one company, TOM Online, has cut ties with Google, citing an agreement expiration for the move.

Google has been working closely with companies who use their services to provide solutions. It has created a status page detailing which of its services are currently being blocked from mainland China. Google offers three services which have been blocked in China for a long time – YouTube, Sites and Blogger. YouTube allows people to upload videos, Sites allows people to make web sites quickly, and Blogger allows people to create blogs. Google Picasa, which allows people to upload photos to the Internet easily, was partially blocked for some time, but then became fully blocked on April 6. Google also tracks the partial blocking of some services, which include Google Docs, Google Groups, and Google Mobile. The services that are still accessible without problems are the search engine, image search, news, ads and Gmail.

Google's move also made a big splash in the Chinese media. In March, an apparently coordinated effort by the Chinese state media published extreme amounts of criticism about Google. The English-language newspaper China Daily ran an editorial that said Google was running into a political minefield. "... the vested interests have described the legitimate right of the Chinese government to regulate companies and control pornographic and related content as 'spying' on its own people. The magnitude of this absurdity is beyond comprehension and the motivated attacks, intolerable."

China Radio International also published a strong editorial accusing Google of being a tool of the U.S. government. "Google's relations with the U.S. government cannot be deeper. U.S. media has said Google was the fourth-largest supporter of Barack Obama in his election campaign. Four of the company's former executives including Sumit Agarwal, who was the product manager for the Google Mobile team and is currently deputy assistant secretary of defense, are now serving the U.S. government," it read. It also said that Google was acting as a tool to "penetrate" the Chinese culture and Chinese people's values.

China's official Xinhua News Agency also followed the similar theme of accusing Google of politicizing itself. It said, "Regrettably, Google's recent behaviors show that the company not just aims at expanding business in China, but is playing an active role in exporting culture, values, and ideas. It is unfair for Google to impose its own value and yardsticks on Internet regulation in China, which has its own time-honored tradition, culture, and value." It ended up by saying, "... Google should not continue to politicize itself, as linking its withdrawal to political issues will lose Google's credibility among Chinese netizens. That will make Google end up to be the biggest loser."

What Does It All Mean?

So, Google search has been banished to Hong Kong for crimes against the Chinese government, and its presence now lies outside of the Great Firewall of China. Its official crimes were politicizing itself, and allowing itself to be used as a tool of foreign powers to influence the Chinese zeitgeist. Its a pretty hard rap sheet to beat, because it looks like Google did exactly that. By putting together business issues, ethical issues, and political issues as reason to retreat from China, Google has flexed quite a lot of muscle that many did not realize the search giant had. Google has changed the game with China, perhaps fundamentally.

The Chinese official media accused Google very strongly of politicizing itself, and it's really hard to deny that kind of allegation when the U.S. Secretary of State backs your company's decision up in a speech the very next day. Secretary Clinton equated Internet freedom of information with U.S. interests, and said that the U.S. would defend their interests. That is unequivocally politicizing the issue of the freedom of information. So yes, Google must stand guilty as charged – in the political arena, it stands with the United States, and the U.S.'s claim to being 'interested' in the unfettered exchange of information. But, really, that is the only stance that

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INDIAN IT-BPO INDUSTRY:

Poised for Record Growth

BY RAJANI BABURAJAN

According to the latest findings from NASSCOM, the Indian IT-BPO (business process outsourcing) sector is poised for a record growth of 5.5 percent to reach US$49.7 billion for FY 2009-2010. The industry association finds that the performance of the industry is far stronger than what is reflected through the growth numbers.

Says Pramod Bhasin, chairman of NASSCOM, "The industry has reinvented itself by increasing its cost efficiencies, utilization rates, diversification into new verticals and markets and new business and pricing models. In the process, it was also able to turn itself into a business transformation enabler for its clients."

The growth was primarily led by the domestic market buoyed by increased government spending in IT, according to NASSCOM. New service areas like engineering and product development displayed phenomenal momentum, clocking combined revenues of over $10 billion. NASSCOM estimates a terrific future growth of 13-15 percent in FY 2011 for the export sector and 15-17 percent for the India market.

With 450 delivery centers in 60 countries across the world, the industry has an unparalleled global value chain. The industry has also enhanced its global workforce, hiring specialized talent in developed markets and building a truly global delivery model.

The coming years are going to represent a significant shift in terms of business models, service lines, customers and talent structure. There will be increased focus on higher-end offerings such as system integration, consulting, business intelligence, knowledge services and vertical specific BPO services, according to NASSCOM.

The industry is expected to generate an increasing share of revenues from the untapped SMB segment through improved pay-per-use business models and platform solutions. It is also expected to acquire domain expertise and near shoring capabilities to further advance India's value proposition as a global outsourcing hub.

Poised for Growth

BPO companies in India are positioned to contribute to this growth, says Munish Gupta, vice president of India Operations for GlobalLogic. The company has grown 10 percent in FY 2010 over FY 2009. It hopes to grow at over 20 percent in FY 2011. GlobalLogic also focuses on the Indian market. According to Gupta, current revenue from the Indian market contributes 10 percent to the company's overall revenue, and it plans to increase the percent in the coming years.

According to Praveen Bhadada, Engagement Manager for Zinnov Management Consulting, cost arbitrage and a huge available talent pool have been the key drivers for growth. However, as the industry started to mature, the increase in awareness about globalization, enhanced scalability of operations, increasing domain expertise and operational efficiency became some of the other drivers which helped the industry sustain its momentum and grow faster.

Sandeep Aggarwal, executive vice president of Sales, Solutions & Transition for Intelenet Global Services, said that Intelenet has been growing significantly both organically and inorganically since the MBO backed by Blackstone in June 2007.

Intelenet has grown from a modest one client and 25 employees in a single facility in November 2001 to approximately 32,000 employees now, spreading across 35 delivery centers in India and overseas, including new centers in Poland, the UK and Mauritius. On the domestic front, in the last one and a half years, Intelenet has expanded its footprint by opening centers in Bangalore, Puducherry, Aurangabad, Thane and Dehradun.

According to Gupta, the availability of talent in India has encouraged the United States and others to set up and manage units in India. Along with the inexpensive labor cost, other expenses for running a business are also less in India compared to other developed economies. Also, the government of India has suitably chipped in by reducing import duties on software and hardware products to encourage the growth of the IT industry. With all these factors, India continues to be the most preferred destination for companies looking to offshore their IT and back-office functions.

With new challenges like an anti-outsourcing campaign from the Obama administration, Indian companies think it is wise to focus on the domestic market as well as on hitherto unexplored markets. They also look toward tapping into regions like the Middle East, Eastern Europe, Africa, South East Asia and Latin America. The Indian IT companies realize that they need to look elsewhere to grow and sincere efforts have already started giving rich dividends to many firms.

Challenges

Though there is scope for immense growth, there are challenges that grow proportionally. According to Gupta, infrastructure challenges remain as one of the most critical issues for Indian companies. Gupta finds that expanding the urban infrastructure is critical to sustaining India's leadership position in the IT industry. "The stress is on reinvestment in infrastructure – that is what will generate economic activity. To be able to maintain an 8 percent growth rate we need to bridge the infrastructure."

According to Bhadada of Zinnov, Indian companies are equipped to face the challenges. The maturity of the service providers is continuing to increase. Indian service providers are starting to realize that the contribution/value that they can generate from India entirely depends on the capabilities they build at the center.

"Special capabilities in technology/function/product, etc. are quintessential for them to sustain their value proposition," Bhadada adds. "Growth can be looked at from two dimensions of value and volume, and most captive centers focused on volume growth for the last few years. As the value expectation from clients was only cost savings, they were able to sustain the impact on the bottom line."

However, in the recent few years clients have realized the need to create competencies at India center, which can help the top line of the company, Bhadada adds. "Indian service providers have realized the need for deep domain/technology competency to deliver value."

Referring to Obama's new policy, Bhadada says the tax-breaks won't impact the Indian IT industry significantly. Alleviating the tax-breaks might prevent new companies looking to venture into offshoring. Those already in the offshoring business will continue since the cost advantage will still continue to exist and would still be a lucrative proposition. Outsourcing as a business strategy will continue to exist for cost effectiveness.

Bhadada adds that cost escalations, attrition and lower productivity are some of the key challenges that have restrained the growth of the industry. At the same time, the global economic meltdown has forced customers to become more cautious and heavily cost constrained. Customers are now seeking more value addition from the work that is being outsourced to locations such as India or China. The story of reducing only the bottom line is no longer attractive enough and customers now expect service providers to better understand their business and their end customers and provide solutions that can create real value impact to their businesses. The paradigm is hence shifting towards innovation and value addition from pure cost arbitrage or talent access.

Emerging Domestic Sectors

Traditionally, banking, financial services and insurance (BFSI) has been the key sectors for the industry. While the banks in the West are reducing their IT spending due to recession, domestic banks are increasing their IT spending significantly. The sector's spending on technology is expected to grow to $2.7 billion in 2013.

However, "as per a Tholons report, it is expected that the global economic downturn will lead to increased outsourcing in healthcare, education, retail, telecom and legal process outsourcing (LPO)," says Aggarwal of Intelenet Global Services. "These verticals can surely fuel the growth of the BPO industry."

The SMB segment is another area where IT spending is expected to rise in the coming years. Emerging areas in this sector include IT hardware and embedded systems. As there is a tremendous increase in IT spending by various government initiatives, companies also look toward this opportunity.

Key Trends

Indian IT-BPO sector is expected to undergo major transformation in the coming years. According to Aggarwal, consolidation will continue as larger players with national reach and scale will dominate. As the focus shifts to the domestic segment, the companies will shift to tier II cities. Intelenet's expansion to Puducherry, Mohali, Aurangabad and Dehradun focuses on exploiting the talent pool in these regions.

Another trend dominating the IT-BPO market in India

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Q&A

SKY YIM
CEO OF REC SYSTEMS KOREA

Fully-integrated Solar Power Installation Company

BY STAFF REPORTER

Question: Can you tell us a little bit about your company?

Answer: REC is one of the world's largest producers of polysilicon and wafers, which is the base raw material for making solar cells. We are based in Oslo, Norway and are listed on the Norwegian stock exchange. Our market cap is over US$2 billion right now, putting us among the top three largest pure-play fully integrated solar companies in the world. Recently we invested $2 billion dollars into a fully-integrated solar module manufacturing plant in Singapore in 2007. We also invested an additional $2 billion for the expansion of our polysilicon and saline gas plants in the United States. Saline gas is used in the production of polysilicon and the semiconductor industry, because silicon wafers are used for both semiconductors and solar cells. The purity for solar cells is a little bit less important than for semiconductors though. So the high-grade stuff goes to the semiconductor industry and the lower-grade stuff goes to the solar cell industry. By the end of this year, when we're up at full capacity, our total production will be over 1 gigawatt.

Q: Do other companies produce this much?

A: I believe Suntech Power in China produces about 750 to 800 megawatts, but companies are always expanding capacity. Many major companies are constantly expanding capacity, so it's hard to say how much capacity each company will produce by the end of the year, as there are so many players in the market now. But our company is fully integrated – we produce everything starting from polysilicon. Most other companies buy wafers or cells and assemble them into modules. They have a factory to just assemble the final product, which is not that hard to do. You basically put the cells in a frame and weld the joints together. A large number of companies just do assembling or OEM work.

Apart from our production capacity, REC has proprietary technology for polysilicon and wafer production. That's where the difference in quality comes in, starting from the polysilicon production, depending on its purity. REC also employs fluidized bed reactor (FBR) technology for its polysilicon production, while most others use the Siemens method. This reduces energy usage for

production by 50 percent, which makes our products highly competitive while being top quality. In addition, we use the 3-busbar production method, as well as having developed a new coating process. All these technology advances have led to our wafers recently having set a new record for high efficiency. Along with ECN (Energy Research Center of the Netherlands) we have together made the world's first multicrystalline solar panels with 17.0 percent efficiency. The performance measurement result was recently officially confirmed by European Solar Test Installation (ESTI).

Q: Do you have customers now?

A: No. And here's why. This is the structure of our project. We establish an SPC, a special purpose company. It's a project company, because it doesn't have manufacturing, nor is it a plant, just an incorporated legal entity. All you need is an address and starting capital. Then what we do is find a piece of land. This land, we'll buy it or lease it through the SPC, and we get the permits as well. Now you're ready to build a solar farm. But before you can do that you need to have money, like the investors we're talking about. So we source an equity investor and also arrange for debt financing, since we're doing Greenfield development internally. Based on the total project investment costs (TPIC), we calculate the optimal debt and equity mix. Once we have secured the land and all the permits, and have lined up the financing, we source a construction company that can undertake the structural installation. We give RFPs to different companies to see who can give us the best quality at the best price. There are a number of turnkey EPC companies that provide the engineering, procurement and construction. However, we also have internal engineering capabilities and our own module supply, so we cover every phase of project development from site feasibility to financing and engineering. That's why in many cases pure play EPC companies end up downsizing because of a lack of work. After a few years the local guys figure out that building a power plant isn't rocket science, and they have better local infrastructure.

But you need to know how to put it all together for the most efficient layout. A good location with high irradiation, the optimal array configuration of the system, the angle and layout of the solar panels, etc., all those kinds of factors affect energy production. So you have to take those things into consideration. Pure play EPC companies don't do their own development, so they wait and sit around until they get a request from a developer. But since we also do those things ourselves, we just outsource the construction part. We take care of everything else.

Though we look for an equity investor, in the beginning we put our own equity into the project as bridge financing. Once we have built the power plant, we sell it to an equity investor and pull our cash back out so we can do other projects. The revenues from the electricity sales are guaranteed by the government. Thus, these projects provide stable, long-term returns. Even if the credit or equity markets crash, the return remains stable for the project owner. Because of that stability, pension funds, insurance companies and long-term asset management funds invest in this kind of project. Solar projects are very steady in return on investment. They drop in efficiency about 0.1 percent annually, but do not drop much further than that. So they are very stable and attractive investments. So in essence, you could say that our customers are the ultimate project owners, the financial investors who want to own these assets as a long-term investment.

Q: What operations do you have in Asia?

A: We currently have our APEC headquarters in Singapore, managed by Andreas Balzer. He's in charge of all of Southeast Asia including Australia and India. And this is the systems business unit – REC Systems. REC also has sales offices throughout other countries. They have sales representatives in every country that has solar projects. REC Systems' business unit headquarters is in Munich, Germany. That's where we have our central engineering headquarters. It's located there because they have the most experience and knowhow in Germany.

Q: What about your operations in Korea?

A: We currently do greenfield project development. What that means is we develop a project from scratch – from sourcing the land to arranging financing. REC was established in Korea in March of 2009. We set up a project development team to cover the full scope of project development. We also set up an internal engineering team, which is very important because it tells people that we are not just a broker, we have our own engineering capabilities. Currently we have concluded MOUs with two local governments in Daejeon and Busan. Those two areas are very keen on increasing the use of renewable energies in their respective areas.

Previously our whole team was part of the CONERGY group. Our group completed the most projects in Korea for a foreign company. We completed close to 50 megawatts of projects in Korea before we switched to REC, which is the most of any foreign company in Korea.

Our group completed the most projects in Korea for a foreign company. We completed close to 50 megawatts of projects in Korea before we switched to REC, which is the most of any foreign company in Korea.

Q: Do you have difficulties as a foreign company in Korea?

A: Up until 2009 both foreign and domestic alternative energy companies were pretty even. But starting in 2009, government regulations changed, which make it very difficult to realize projects in Korea. The government, first of all, drastically reduced the feed-in-tariff, which is how much they buy the electricity for. Second, they put yearly caps on how many megawatts of projects can be done in total for the market. So if your project isn't built within the first 50 megawatts, then you can't do any more for that year. And lastly, they instituted a 3-month construction requirement. That means from the day your project gets approval you have 3 months to complete the construction. For foreign companies it's very difficult to do that, but for local companies it's much easier because they already have local infrastructure in place. But for foreign companies this presents a very risky barrier.

Q: Is this discriminatory or does it have some business logic?

A: It does have some business logic, because it weeds out projects that are just sitting around and cannot be realized. But it is a little discriminatory in disguise, because for foreign companies it takes at least a month just to ship the main products, such as modules and inverters, and securing the financing takes a while too. For foreign companies to successfully and safely build a

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China's Advancements in SPACE TECHNOLOGY

BY ANURADHA SHUKLA

The Chinese, known for their expertise in various technological innovations since ancient times, saw the birth of their space program in 1956 under the guidance of Tsien Hsue-Shen. From then on, the program metamorphosed through stages of development and other fields resulting in a comprehensive system of research, design, production and testing.

For centuries after the invention of the black powder rocket the Chinese made no great efforts in space technology, but the return of Tsien from the United States helped the nation catch up with other nations of the world. The industry grew by struggling with a negligible industrial infrastructure and the absence of scientific and technological support.

Within 50 years, China found itself in a strong position in manned spacecraft, satellite recovery, multi-satellite launches by a single rocket, cryogenic propulsion, strap-on boosters, geostationary satellites, satellite tracking and control, remote sensing, communications, navigation satellites and micro-gravity experiments.

One of the pioneers of the Jet Propulsion Laboratory in the United States, Tsien returned to China and embarked on the tough task of making China self-reliant in space technology. Indigenous technologies in metallurgy, machinery and electronics had to be built. The former Soviet Union provided the required rocket and nuclear technology and also trained students during the beginning stages.

Tsien set up the Space Flight Medical Research Center to facilitate manned flights with the launch of the Shuguang-1 project to put a Chinese man into space. The

first satellite, Dongfanghong-1, was launched in 1970 marking China's entry into the group of the five elite countries that had successfully accomplished this feat. By 2000, the number rose to 47 satellites of different types.

Chinese Satellites

The space program in China developed four satellite series initially. They include FSW (Fanhui Shei Weixing), recoverable remote-sensing satellites; DFH (Dongfanghong), telecommunications satellites; FY (Fengyun), meteorological satellites; and SJ (Shijian), scientific research and technological experiment satellites.

China also developed the technology for satellite recovery and also possesses the capability to develop and launch a geo-stationary telecommunications satellite indigenously.

The FSW recoverable satellites were initially used for military reconnaissance, but were later used in earth resources photography, and the design was adapted to conduct experiments in crystal and protein growth, cell cultivation and crop breeding.

The DFH telecom satellites spurred the growth of the telecom industry in China. The fixed telecom service was enabled by several large and medium-sized satellite telecom earth stations. The DFH projects soon established a robust communication network even reaching far-flung areas in China. By 2000, the Very Small Aperture Terminal (VSAT) communication service encompassed 30 domestic VSAT communication service providers and 15,000 small station users, including 6,300 two-way users. This served critical sectors like finance, meteorology, transportation, oil, water resources, civil aviation, power, public health and media.

TV broadcasting was enabled via foreign satellites in 1985 with China setting up a network of 33 transponders transmitting programs for China Central Television (CCTV) and local TV stations. Satellite education programs were a huge success with 30 million people benefiting in colleges and in technical secondary schools. Digital TV transmissions by satellite direct broadcasting using dishes served rural areas in China in a big way.

FY meteorological satellites offer indigenous weather-tracking capabilities. The FY-1 series were operated from low earth sun-synchronous orbits and the FY-2 series operated from geo-synchronous orbits.

SJ scientific research and technological experiment satellites were used to explore the upper atmosphere using rockets and balloons. Later SJ satellites were used to get data on the space environment. Laboratories to support space physics, micro-gravity and space life science, and the Space Payload Application Center were established to further boost space research.

Manned Space Missions

The advanced manned spaceflights program was started afresh in 1985 to keep abreast with other nations. Among the various technological revolutions planned, astronautics occupied a major slot. Several ideas were put forth for the type of manned spacecraft the country will pursue. It ranged from a horizontal takeoff/horizontal landing two-stage reusable space shuttle, a vertical takeoff/horizontal landing two-stage reusable space shuttle, Shenzhou and others.

In January 1991, the Air Ministry established a manned space program office and zeroed in on a modest manned space development plan, using the existing Long March CZ-2E booster to launch a manned ballistic capsule into orbit.

In 2003 the first Chinese manned spaceflight became a reality. Yang Liwei was the Chinese astronaut on board the Shenzhou 5 spacecraft. The spacecraft stayed in space for 21 hours, made 14 orbits and made a successful reentry. China became a member of the exclusive league of three nations to have launched humans into space along with the former Soviet Union and the United States.

Applications of Space Technology

China's focus on developing satellite application technology resulted in remarkable progress in the fields of remote-sensing satellites, satellite telecom and satellite navigation. These satellites are employed in economic, scientific and technological, cultural, national defense and social spheres. The satellite remote-sensing application technology is being leveraged in meteorology, mining, surveying, agriculture, forestry, water conservancy, oceanography, seismology and urban planning industries to a great extent.

Several institutions have been established in China for developing remote-sensing solutions using satellites. These have been found to be very useful for weather

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BROADBAND

Brings Telecom Industry Back to its Monopolistic Tendency

BY NK GOYAL

The 1990s saw a big dose of privatization in the telecom sector. Country after country invited private telcos to invest and provided various incentives for their growth. The sector moved from monopoly to duopoly to multipoly, and in case of India, about 13 telecom operators competing for subscribers. Private telcos brought in tremendous development. In India in the last10 years subscribers have increased to 560 million.

Electronic and knowledge connectivity lead to economic connectivity, leading to an inclusive growth across all sectors of society. Now, during the 21st century, the growth and development of a nation is increasingly becoming reliant on advances in information and communication technologies (ICTs). Until 1998 we had only 0.3 percent global broadband subscribers. That number has grown to 10 percent within the last four years. Of the world's estimated 6.6 billion people, 1.1 billion are on line, out of which broadband subscribers number about 570 million as of December 2009. By 2013 global broadband subscribers are expected to surpass 1 billion.

Though ICTs have spread rapidly in the last decade, penetration levels are insignificant in rural parts across the world, and the same is true for India as well. The broadband penetration in India presently is barely 8 million, which is less than 5 percent. The targets set by the government for broadband have not been achieved due to a variety of reasons. In India, more than 70 percent of the population living in rural areas can benefit from Education, Telemedicine and Financial services enabled on the Broadband Network.

The governments have realized the impact of telecom growth in GDP. Telecom also brought empowerment to the lowest-placed citizen at the bottom of the pyramid. Countries are realizing that e-governance is the key to economic development and they see now the need to increase broadband penetration. Governments are realizing that broadband growth is also necessary for job creation.

This, however, requires massive investments. Take the case of India, where an investment of US$2.6 billion by 2010 and $5.35 billion by 2020 will be needed to achieve the growth. The investment is needed primarily in the areas of urban networks, domestic and international backhaul, content delivery and rural build-out processes.

Internet access via mobile is gaining momentum. In many parts of world, the first screen seen by a citizen is their cell phone. More than $140 billion in revenue is expected from mobile broadband by 2014.

Interesting things are happening now. Each telco swears by broadband and does everything possible to get spectrum, yet the country and its citizen's cry for broadband and internet. The private initiatives result in broadband networks that are lagging far behind when compared to wireless penetration. Surprisingly, now every telco expects government to provide stimulus, subsidies or grants. There are lobbies and pressure on governments to be proactive and add additional investments and subsidies to close the gap in broadband. Many government have succumbed to these tactics and several are announcing grants and investment plans for broadband.

Major search brands such as Google, Yahoo and MSN have now realized success and are fast developing solutions for mobile Internet.

Latest trends

The United States announced a $7.2 billion broadband stimulus package as a means of transforming rural and low-income areas. This package comes with net neutrality, due to which all major existing operators – constituting 85 percent of existing lines – did not apply. Another factor for operators to not get involved was the fear of stringent regulations and a government invasion into business practices. So there have been numerous applications for the grants by relatively lesser-known smaller companies.

Australia created a separate Ministry of Broadband. The broadband penetration per household is already over 90 percent using DSL or cable modems. The government has announced an investment of $31 billion for laying fiber and other networks to get ahead in an emerging high-tech global economy to cover 90 percent of country with 1 Gbps broadband speeds by 2014 by fiber-to-the-home (FTTH) networks. They have formed NBNCo, which will get the majority of their funding from the government, supported by contributions from the Building Australia Fund, Aussie infrastructure bonds, etc.

Finland, recognizing broadband as a fundamental right for all citizens, has planned 100 Mbps speeds by 2013 for all citizens. Broadband of 1 Mbps is currently available to 90 percent of citizens.

Canada has broadband penetration in 94 percent of households, yet 22 percent of rural households are still without broadband. The Canadian government announced in July 2009 "Broadband Canada Connecting Rural Canadians" as a part of Canada's Economic Action Plan, which gives $225 million to Canadian industry for the development and implementation of a strategy for improving broadband coverage. The federal government supports up to 50 percent of the costs for network equipment purchases and hardware/software upgrades, as well as long-term network capacity investment costs.

The UK government announced the "Digital Britain Plan" to deliver 2 Mbps broadband speed to all citizens by 2012.

South Korea has 43 millions mobile phones, out of which one-third are on the 3G network. About 50 percent of them provide more than 50 Mbps speed. The state has invested a lot in broadband penetration for all citizens.

Malaysia wants to boost broadband penetration to 50 percent by 2010. They would like competition based on services, not infrastructure. The government is co-investing $284 millions with Telecom Malaysia fronting $3.2 billion.

Infocomm Development Authority (IDA) in Singapore has planned S$1 billion investment for the "National Backbone Network" by 2012, covering 95 percent of Singapore. IDA is investing S$750 millions. The project operates on three levels: OpenNet is planning to roll out the dark fiber for the 100-Mbps network. This fibre would be sold to wholesale-provider Nucleus Connect, a Star Hub Company. They will sell to retail service providers. OpenNet is supported by SingTel, Singapore Power, Singapore Press and Axia NetMedia, Canada.

China announced a £300 million project to provide broadband for every family and to link them to their children's schools to access progress reports on attainment, behavior and other needs. It involves a nationwide roll-out of a home access program to get laptops for 270,000 families by 2012. China, during January 2010, also urged the acceleration of triple network convergence.

The French government in January 2010 detailed investment plans of 5.4 Billion for building fiber outside cities by private investors.

Portuguese Government during January, 2009 announced euro 800 million in credits plus euro 60 million in tax breaks for connecting 1.5 million homes through FTTH.

The European Commission plans to lay down Guidelines for government funding to boost broadband roll-outs to ensure a higher level of broadband coverage.

Factors for low private investment

The complexity of a private sector business model comes from the expectation of returns to shareholders and a bankable project putting profitability as a prime consideration without any linkage to social service or economic growth. Low paying capacity of rural subscribers, the costs of laying fiber, right of way, etc., and building cell towers throughout the country makes it appear an unviable business situation to telcos. Government,

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pure plutonium," says Choi. "The purpose of recycling is to get only useful elements in spent fuel," including uranium, in a process called "pyro-processing." At the Korea Atomic Energy Research Institute in Daejeon, a center of scientific research about 80 miles south of Seoul, scientists call pyro-processing "a long-term solution" for recycling spent fuel rods without producing weapons-grade plutonium.

"The point is pyro-processing cannot recover plutonium," says Lee Hansoo, director of nuclear fuel cycle process development at the institute. "It cannot compare with normal reprocessing." Lee Kwang-seok, director for strategy and international studies at the institute, says pyro-processing is "more economical, more problematic-resistant and has more safeguard ability" than do reprocessing systems in use in Japan and France. The problem, however, is that pyro-processing, first developed in the United States, remains in the research and development stage. "We need more than 10 or 20 years," Lee Hansoo estimates, before pyro-processing will be ready for commercial use.

Koreans ask, however, why Korea cannot use the Japanese and French systems, which hold down the level of fissile material to a percentage lower than that needed for a warhead. They see constraints as an affront that may disrupt the U.S.-Korean alliance – and weaken cooperation on military and diplomatic issues, including North Korea. The rift assumes greater importance as Korea produces ever more nuclear energy – and competes as one of the world's major producers of nuclear energy reactors. KEPCO, the state-invested Korea Electric Power Corporation, has signed a deal to export four 1,400-megawatt nuclear reactors to the United Arab Emirates for a total of $20 billion – the first of what the government hopes will be many more such agreements.

Korea, moreover, is rapidly becoming reliant on nuclear energy – 20 light-water reactors now produce 40 percent of the country's energy needs with 10 more due to go on line in a decade. KEPCO has overall responsibility while a single company, Doosan Heavy Industries, is building the reactors in the industrial city of Changwon, near the major southeastern port of Busan. Numerous other companies provide parts and expertise.

It is as though the two Koreas were already in a nuclear competition – South Korea feverishly going nuclear in terms of energy while North Korea's leader Kim Jong-il escalates the nuclear arms race. Doosan was building two nuclear energy reactors for North Korea under the terms of the 1994 Geneva Framework Agreement until the agreement came unhinged two years ago. Under the terms of the framework, negotiated between the United States and North Korea, the North was to get two light-water nuclear energy reactors to go on-line at a site on the northeastern coast in return for giving up its nuclear weapons program. Inspectors from the International Atomic Energy Agency rotated in and out of the North Korean nuclear complex at Yongbyon, making sure North Korea's solitary five-megawatt nuclear reactor was locked up and the North was living up to terms of the agreement.

The Geneva deal broke down completely in 2008, however, after North Korea was revealed to have an entirely separate, super-secret program for producing the highly enriched uranium needed to produce warheads. Doosan was producing those two nuclear energy reactors right up to the time in which the Korean Peninsula Energy Development Corporation, widely known by the acronym KEDO, was finally and formally disbanded. South Korea, under the Geneva framework, was to have been by far the biggest contributor to KEDO, spending $5 billion or so for those reactors. Fulfillment of the agreement would have cost Japan about $1 billion while the United States was obligated only to ship 50,000 tons a month of heavy fuel oil to North Korea to fuel its decrepit power plants until those two reactors were finally installed.

Doosan's program for building twin reactors for North Korea came to screeching halt with the failure of the Geneva framework, but the company was already immersed in plans for building many more reactors for domestic use as well as export. "The vision for the Korean government," as outlined at Korea's four nuclear complexes, is to produce 100 or so reactors in 20 years, including 80 for export in competition with the United States, Japan, France and China. Korea by 2030 expects to derive 60 percent of its energy from nuclear power. Patriotism and nationalism are major motivators. South Korea's President Lee Myung-bak, who rose to position of chairman of Hyundai Engineering and Construction during its drive for contracts in the Middle East in the 1970s and 1980s, places the export of nuclear reactors among his priorities. He pressed for the deal with the Emirates – and lobbied Indian leaders to consider Korean reactors during a visit to New Delhi.

The nuclear energy complex at Uljin, about 100 miles southeast of Seoul, offers a window, literally, on the problem of what to do with spent nuclear fuel rods. Through thick glass visitors can stare down at huge tanks of water at the bottom of which lurk cylindrical canisters containing spent nuclear fuel rods. That's where they're stored after having powered one of the four reactors at the Uljin complex. "Currently we have space for spent fuel rods until 2016," says Park Chan-sung, an official at the site, the newest of the four nuclear complexes operating under the aegis of the state-owned Korea Hydro and Nuclear Power Co. "Plans for after 2016 are under discussion," he said.

Atop a hill overlooking the complex at Kori, down the east coast from Uljin, where Korea's first reactor began producing power in 1978, Lee Soo-il, a director, points to silos housing six nuclear reactors – and to two more silos awaiting the installation of reactors. "We are trying to sell many more reactors in the Middle East and all over the world," he says. "We are trying to make our unit cost-competitive," he says. "We worked very hard to develop the technology." Lee stresses the absence of a long-range system for dealing with spent fuel rods. "Everything is stored here at this site," Lee says, "We are trying to figure out ways to deal with reprocessed spent fuel."

With all the emphasis on building reactors, the question of what to do with spent fuel rods assumes ever more urgency. L. Gordon Flake, director of the Mansfield Foundation in Washington, with a long background in investigating Korean issues, cites the reprocessing controversy as "very dangerous" – so much so that he ranks it as "the most important" long-term issue between the United States and South Korea. "The challenge is to put the focus on nuclear responsibility, not nuclear sovereignty," says Flake, a frequent visitor to Korea. "If it becomes cast as a question of national pride and sovereignty, it could be very damaging."

Koreans may have trouble, however, convincing skeptics. At the Korean Atomic Energy Research Institute, physicists were discovered to have enriched tiny amounts of uranium in 2000 without even notifying their own government. The International Atomic Energy Agency, in a report issued in 2004, scolded Korea for not having reported the experiments, but concluded they had stopped. Analysts fear, however, that the IAEA investigation gives North Korean leader Kim Jong-il another reason for going ahead with his own program while calling for a "denuclearized" Korean peninsula.

Any new U.S.-South Korean nuclear cooperation agreement, says Evans Revere, president of the Korea Society in New York and a former senior U.S. diplomat here, "will have to be in strict compliance" with Korea's international commitments under the nuclear non-proliferation treaty. Lee Chung-min, a professor at Yonsei University and ambassador for international security affairs, says South Korea is building "safeguards into our proposal" and "any reprocessing will be under the full purview of the IAEA." He links the issue to Korea's rise as an exporter of reactors. "At stake," he says, "is a matter of energy independence."

South Korea's desire for "energy independence" parallels North Korea's stubborn insistence on the right to be able to build nuclear explosives in case war breaks out on the Korean peninsula. The saddest irony is that North Korea, proud of its place as one of nine nations with nuclear warheads, has not attempted to build a single reactor for the purpose of producing badly needed electrical power. Obsessed with achieving the status of a nuclear power, Kim Jong-il does not appear to have considered the possibility of the North's constructing its own nuclear energy reactor.

Instead, North Korea is sure to go on demanding the twin light-water energy reactors promised under the Geneva Framework Agreement if North Korea ever returns to six-party talks on its nuclear weapons program. The need for those talks assumes special urgency while South Korea rapidly emerges as a nuclear powerhouse – with the know-how to fabricate nuclear warheads if tensions rage out of control in some unforeseen conflict, the dreaded "Second Korean War." A-P

Battle Between WiMAX and LTE in the Asian Context

BY VINTI VAID

For the past couple of years, the mobile world has been on the brink of a massive collision between two emerging fourth generation (4G) wireless broadband technologies. These standards are distinct and different from one another, but both are purported to take mobile communications to the next level. However, the current rivalry between these two technologies has placed mobile operators and vendors in a dilemma – which to choose between the two leading contenders.

These technologies in perspective are the WiMax (Worldwide Interoperability for Microwave Access), complete with its backing from Intel and LTE, and the Long Term Evolution of 3GPP systems (3rd Generation Partnership Project) used in GSM networks.

Both standards are poised to provide high-speed wireless communication power for next-generation mobile technologies. From the current 8Mbps average, these technologies are designed to reach high-speed broadband levels as high as 50 Mbps or more. On top of that, these technologies boast of providing such quality and speeds in wireless communications even from base stations that are located from 2km to as far as 5 km away.

With 3G still gaining universal acceptability and availability even in the United States, these two competing technologies have sounded off the start of a new race towards the standard for mobile communications in the near future. While the race is already causing a whirlwind in the Western world, this brewing storm has traversed the seas, virtual spaces and has headed towards a new battleground – Asia.

Comparison between WiMax and LTE

Before delving into the intricacies of this heated battle for supremacy between two great technologies, it is important to make a straightforward comparison between WiMax and LTE. Such apple-to-apple comparisons between these two technologies can help end users spot what advantages one has over the other to make it the standard of choice between mobile communication leaders.

Technically, although they have yet to prove their capabilities of reaching 4G levels, their practicality in applications have already classified both as 4G technologies. Both are based on all-IP architecture similar to Wi-Fi and the Internet, allowing capabilities for high-speed Internet connections. LTE, however, allows peak download speeds of up to 100 Mbps, which is higher than the 20 Mbps peak for 3G and the 40 Mbps for WiMax. This makes them ideal for use for applications requiring fast Internet access, wide broadband spectrum for data communications, and Voice over Internet Protocol (VoIP) telephony.

The main difference between the two technologies would be in the technical elements and factors involved with each technology. Aside from that, their difference would lie at how end users will use them to reach their business or commercial goals. WiMax is geared for data and high-speed broadband applications, but does not allow operations at slower speeds and networks, while LTE is for voice, primarily in GSM technologies, and can be backward compatible with 2G and 3G networks.

In a more practical sense, WiMax users will not be able to use the service if it goes beyond the high-speed broadband coverage area. This is due to the fact that it was not designed to be backward compatible with slower networks. On the other hand, LTE can still be used even on 2G or 3G networks, however, the speed will be significantly lower.

One disadvantage of LTE, though, is it's a relatively new technology and requires much more expensive equipment. WiMax has been in use years before LTE and has been deployed and in service at various locations around the globe. In terms of cost per device, LTE would be tagged with a higher quote while WiMax would cost only a fifth or even a seventh of what LTE devices would be worth in the market.

Who's winning in Asia?

In a 2009 report released by TelecomAsia, there were already 12 mobile WiMax networks during the first quarter of 2009 compared to zero for LTE. Note that this data includes only mobile WiMax networks and did not consider fixed WiMax networks. If these fixed WiMax networks will be counted, there would already be 40 total WiMax networks in operations in the Asia-Pacific region during that quarter. However, LTE is fast gaining ground with 55 networks already planned or in deployment as compared to only 25 for WiMax for the same period.

On top of that, there were more operators planning to deploy LTE networks last year as compared to the previous year, according to Ghosh from Mint. This includes Qualcomm India and South Asia, the Asian subsidiary of Qualcomm Inc., which is considered the world's biggest manufacturer of chips for mobile devices. Based on these deployment plans and subscribers based on technologies, it is projected that LTE networks will dominate the next generation mobile broadband market, even though WiMax already had a significant head start over LTE.

Still, Infonetics Research projects that WiMax will continue to have a significant share of the wireless broadband market, particularly in niche applications, not only in Asia but in the rest of the world. India would lead the way with major Indian operators pursuing WiMax deployments. The Middle Eastern region, known for affluent and stable economies, are seen to pursue WiMax applications to boost their inferior telecommunications systems and infrastructure.

Japanese and Korean markets are seen to pursue both WiMax and LTE adoption, so it would be more likely that dual mode devices would arise leading to a convergence of both technologies. China is foreseen to make a huge step towards LTE with China Mobile and Huawei, two of China's biggest players in the telecommunications industry, making plans to migrate to LTE in the next couple of years.

Speaking about his home country Pakistan, Afzal Bajwa from technologizer.com says that the consumer markets that are using various mobile devices already use a WiMax-like connectivity but at much slower rates, particularly averaging only 300 kbs. Previous attempts to offer wireless broadband connectivity proved unsuccessful. However, with China Mobile, ZTE and Huawei already operating mobile networks in Pakistan, it is most likely that the country would also mirror China's move towards 4G – including the choice of LTE.

Upcoming Trends: The Battle Surges On

Recent broadband spectrum auctions were announced by the Indian government, particularly two slots of 20 MHz intended for broadband wireless services. With no technological specification identified in these deployments, a mad scramble between WiMax and LTE surges anew, both eager to capture this potentially huge market.

In preparation, the WiMax Forum is beefing up the certification and profiling of WiMax 2, intended to provide 300 Mbps speeds, which is significantly higher than the current rating of 40 Mbps. WiMax is also confident that the lower cost of WiMax devices and the readiness of the platform makes it ideal for India's broadband roll out.

However, the 20 MHz spectrum that India offers may cause problems with interference using the WiMax technologies, which require a minimum of 30 MHz of spectrum – a fact that is known in the industry. Still, already 1,800 WiMax base stations have already been deployed by BSNL, an operator owned by the state, as part of its rural WiMax project. On the other hand, the GSM Association is lobbying for LTE and is pushing for this technology platform as more appropriate for the Indian broadband rollout. LTE has greater tolerance for interference and would be suitable for the needs of the populace.

Stephen Lawson from IDG News Service notes that in China, the deployment of LTE networks by China Mobile alone is seen to be more than the worldwide deployment of WiMax networks. Huawei Technologies, a major player in mobile infrastructure making its presence worldwide, has been selected to undergo commercial deployments of LTE not only in China, but in six commercial deployments across the world. Huawei is currently conducting 60 Long Term Evolution trials among carriers in different parts of the world including the United States and Singapore.

Integration between WiMax and LTE: Is it Possible?

As the battle rages between the deployment of WiMax and LTE, many are calling for a stoppage to this rivalry, urging both camps to focus on their technologies so they can achieve and reach new heights. For one thing, this is totally different from the VHS and Betamax format rivalry of the 1970s and the 1980s, where one or the other had to cease existence, with Betamax on the

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iPhone *Shakes Up* Korea's Electronics Market

BY ROB YORK

Choi Ju-hyun, 27, got her iPhone in December 2009 by ordering it from the Internet. She paid 260,000 won for the phone and signed up for a two-year contract.

It was her first smartphone. Since getting it, it she has spent a great deal of her time using it to search for places to shop, listen to music, and search for more applications (or "apps"). Of all its features, she finds its maps, Internet service and e-mail functions most useful. She wishes it had television service, but considers her iPhone a worthwhile purchase all in all.

"It will be different among different people, but I think it is worth it because I can get useful information from it," she said.

The original iPhone went on sale in June 2007, five months after it was revealed to the public by Apple Inc. Over the next five quarters, it sold 6.1 million units. The updated iPhone 3G followed in June 2008, and as of the fourth quarter 2009, Apple had sold nearly 34 million units of the two phones internationally. With numbers like these, even South Korea's notoriously protectionist trade policies couldn't hold out forever.

By the time the iPhone went on sale in South Korea on November 28, pre-orders had already exceeded 50,000, according to Bloomberg. By Christmas, The Korea Herald reported sales reaching 170,000, and it is now estimated that there are anywhere from 300,000 to 400,000 iPhone users in Korea.

Impressive numbers, especially considering the toehold that local giants Samsung and LG have maintained on the electronics market. Through the iPhone, Apple appears poised to succeed in a market where international titans like Nokia and Sony Ericsson have stumbled.

The difficulty in competing with local conglomerates has a lot to do with the preference that Koreans have for homegrown products, but probably even more to do with the nation's trade restrictions. In fact, the iPhone might not even be here, shaking up the local market, were it not for the South Korean government, which exempted Apple from a trade restriction on smartphones.

Once here, though, it certainly seems to have made an impression. As reported in The Wall Street Journal, South Koreans pay the highest prices in the world for cell phones and one of the highest rates for wireless service. In this society, the world's most heavily wired, cell phones are a status symbol, and Koreans have responded to the image that an iPhone brings.

But not just native Koreans; members of the growing foreign community have also used the iPhone's arrival here to partake in the smartphone revolution. It is complicated for some non-Koreans, many of whom are English teachers who come here on one-year contracts to get an iPhone of their own, as its users are expected to sign two-year contracts. As a result, they are expected to buy their phone service up front, which may exceed 700,000 won.

However, those who live here on F-series visas, as overseas Koreans, those who've married Korean citizens, or those who've acquired permanent residence here, can receive a two-year contract as easily as a Korean. Matthew Lamers, 31, of Canada is one of those.

Lamers received his iPhone 3G in December as a Christmas present from his wife, who purchased it through SK Telecom, the Korean distributors of the iPhone. He said there is more than one plan for paying for an iPhone. "Basically, the more you agree to pay per month for two years, the cheaper the phone will be. I went with the 35,000 won per month plan, so the phone ended up costing 230,000 won."

A person who agreed to pay more than 60,000 won per month would end up paying less than 160,000 won for it, he said.

Lamers, who had never used a smartphone before, had intended to purchase either an iPhone or a BlackBerry, Research in Motion's very well-known model. "I don't necessarily think the iPhone is the better of the two phones; it was more like I decided not to get the BlackBerry because its main function is connectivity to your job."

It may not offer as much as far his job is concerned, but Lamers said offers quite a lot else.

"The apps are the selling point. Before I had this phone, I didn't really know what apps were. But now I have a weather app, I follow my ice hockey teams through iPhone apps, I can get flight times from an app, stock prices, bus times. You name it, there is an app for it."

A news junkie, Lamers carries two newspapers with him at nearly all times and uses his iPhone to read even more. "I guess I like reading news on the iPhone because I get it the second it comes out from the New York Times app, the AP app or the Reuters app." Lamers notes with some frustration that Korea's English media has yet to exploit the new technology.

But not everything about having an iPhone is positive: When asked about the biggest change in his life since he received his iPhone, he cited higher monthly cell phone bills and less disposable income. "I can live without my iPhone, but I don't want to," he said.

Nonetheless, he feels his iPhone was worth the money. "The problem is that Korea has the highest data transfer rates in the world, so even something simple like reading the paper online is costly at the end of the month."

There are also improvements that can be made on future versions of the phone. "Its biggest fault is its low battery life. My old phone lasted almost a week without a charge, but this machine barely lasts a day. It [also] could be lighter."

Another area in which there is room to grow may be in internet banking, though that is a problem for smartphones in general in Korea, and not just Apple's. The JoongAng Daily reported early in March that only Hana Bank and the Industrial Bank of Korea offered smartphone banking services. This is primarily due to security concerns, as Korea's online banking systems have almost all been designed with Microsoft Internet Explorer in mind. As a result, they require specific security certifications and even additional software installations.

The JoongAng Daily calls adjusting this to a mobile platform "a near impossible task."

The competition

Flaws and all, there's little doubt that the presence of the iPhone has significantly impacted the Korean market. In November, Young Nam, CEO of LG Electronics, the world's third-largest producer of mobile phones, was confidently stating that smartphones would be his company's focus, and that he considered the company's true rivals to be the iPhone, Blackberry and the products by Palm Inc.

However, LG has no smartphones that can compete with the iPhone's name recognition, and sales of its flagship VX8500, better known as Chocolate, were cut nearly in half within a month of the iPhone's release here. At the same time, Samsung's Omnia2 smartphone kept pace with the iPhone, but not before a serious readjustment: The Wall Street Journal reported that an Omnia2 phone would be free for those who bought an $80 monthly plan from SKT, the Omnia2's distributor, and the price for some plans were reduced by as much as two-thirds.

More recently, the Ministry of Strategy and Finance launched a mobile glossary app for iPhone users that may have proven a game-changer in the smartphone

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Q&A

JUSTIN HO

CO-CEO UTIBA PTE LTD SINGAPORE

BY STAFF REPORTER

Question: Briefly, please describe the kind of product and services your company supplies

Answer: Utiba has been a pioneer in the field of mobile commerce and has provided mobile financial transaction systems since Utiba established the E top-up utility to increase pre-paid penetration for mobile operators and established the growth path to mobile commerce. Utiba has always believed that the key to success in this fast-evolving, rapidly-unfolding and ever-expanding domain is to stay ahead of the market requirements.

When the pre-paid segment was becoming a compelling growth path for mobile operators, Utiba identified the opportunity and came up with the first ever electronic pre-paid account top-up system and created an unparalleled success story with the product. This system fuelled the growth and penetration of the prepaid mobile segment like never before and until today, Utiba's top-up deployment for Airtel, India, holds the distinction of being the largest transacting top-up system in the world.

It was our complete understanding of the domain and remarkable innovativeness that prompted us to develop a mobile commerce system which was deployed with Globe in the Philippines and is marketed under the brand name of GCash. We achieved yet another milestone when we became the first solution provider to enable an international remittance through mobile by connecting the mobile wallet systems of Maxis, Malaysia and Globe, Philippines.

Q: What are the trends in the M commerce industry globally and what are the opportunities for Utiba?

A: Over the last two years, we have seen a steady uptake of M commerce services across the world, though the nature of services and response to them varies from market to market. In the developed economies, the focus is towards increasing customer's convenience in retail and banking services. While in the developing or under developed economies, the nature of services is more inclined towards creating an all-inclusive financial infrastructure with services like remittance, microfinance and no-frills banking. Utiba today is recognized as a leader in the mobile transaction domain. Our products are designed to be able to serve both these distinct markets.

Q: How do you see the Korean market and do you have any experience in working in such a market?

A: Korea is a market where high mobile density is coupled with good banking penetration. Given this, unlike in a developing economy, we find more potential for mobile payments and mobile banking-related transactions in this market. Our flexible product stack can not only fit well into the developing economies by providing a no-frills bank account equivalent – the mobile wallet – but also in markets like Korea where the mobile phone might be required to be more tightly coupled with the banking and plastic card infrastructure. Our installations in Maxis in Malaysia and True Mobile in Thailand are examples of deployments in similar market conditions.

We also identify a migrant population in Korea, which can be targeted with our remittance product, and the recent postal department-led remittance service targeted to Vietnam can be easily launched through our remittance product far more cost effectively.

Q: Could you speak about some of your customers?

A: Utiba's customer base is spread across three continents and more than 15 countries. In the South Asia region, Mobilink in Pakistan, Airtel & BSNL in India and Citycell in Bangladesh are already using our platform. This year we have been chosen by Sistema, India (MTS group); Uninor, India (Telenor group); and Myway, India to offer an electronic top-up system. We have also been selected by Banglalink in Bangladesh as their solution provider for the mobile commerce system. Utiba has

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Standing Outside the Great Firewall of China

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Google could take. Its entire business model is built on profiting from the free exchange of information, and in fact it makes the exchange of information more free at every opportunity. It has no choice but to ally itself with whichever political interest most supports its business model.

Google wasn't exactly doing so well in the Chinese market, a point that many critics used to say that the company's decision was merely mercenary. However, the link between the free exchange of information and Google's profit margins is undeniable. So, while China blocks the free exchange of information, Google simply cannot make a profit. It's like a company whose profits come from the free exchange of pollen between plants, which then grow and bear fruit, which the company harvests and sells. A company like that could not operate efficiently in a country that highly regulated the exchange of pollen in its airspace. (I leave the exact method for pollen exchange regulation in this theoretical country as an exercise for the reader.) Like that fruit company, Google has no choice but to encourage the free exchange of information, as that company would have to encourage the free exchange of pollen to be profitable.

Now, looking at the accusations of the Chinese media in that light, you can begin to think of things differently. Because the fact remains that Google has been outside of politics for a long time. The company has never confronted a government before. It has never been an activist in other causes. It has quietly offered a framework for the average user to access the gigantic information blob that is the Internet, and inserted unobtrusive ads next to its work. It charges as little as 5 cents for each ad, and can said to have literally become a billion-dollar company one nickel at a time. After Google reached critical mass, achieving 51 percent of the search market online, it quickly shot up to the 90 percent range, and has been consolidating its base of wealth by offering unmatched services for free, in order to make sure people keep offering their eyes forever. Your momentary attention is all Google wants, ladies and gentlemen, so please step up and see its wonders and splendors tonight. And people do step up.

Google's business model was decidedly apolitical. It doesn't need government contracts. It doesn't need to foment rebellion. It doesn't even need congressional approval for anything. The company has stayed out of politics until this spat with the Chinese government. So why would a multi-billion dollar company decide to get into a disagreement with one of the most powerful governments in the world? It's simple – China was interfering with Google's business model. Because, you see, it wasn't Google that first politicized the free exchange of information, it was China. The free exchange of information is very threatening to the Chinese government, which is why it has controlled the information within its country as much as possible for the past 50 years. So, basically, Google's business model was a direct threat to the Chinese government. The two could simply not see eye to eye for any length of time.

Quotes from the Xinhua commentary on Google are quite telling. The news agency states, "In fact, no country allows unrestricted flow on the Internet of pornographic, violent, gambling or superstitious content, or content on government subversion, ethnic separatism, religious extremism, racialism, terrorism and anti-foreign feelings." From this statement we can infer that China's web censorship tries to restrict those topics. However, with a quick Google search, I can find web sites on every single one of those topics. Particularly, www.overthrowthegovernment.org and www.stormfront.org deal with subversion and racism, respectively. Web sites of superstition and anti-foreign feelings are freely available, in fact they are profoundly numerous. From my personal experience, it seems that the Internet runs with a constant background hum of outrage, as billions of people rediscover that they don't all agree with each other every minute. And yet, almost all of the wired countries of the world seem to be doing fine. Only a few governments, China's among them, have such a long laundry list of fears about the Internet.

Now, there's not much that anyone can do about this. The only thing to take from the Google vs. China debacle is to be reminded, yet again, that China stands firmly against the free exchange of information. Also, it would be good to note again that the United States, based on Secretary Clinton's words, views the free exchange of information as a vested national interest. These are like signposts on the global stage. From a business standpoint, businessmen should look closely at their companies, and decide how much their profits derive from the free exchange of information, and how much its restriction will impact their bottom line. Then, they can simply take a look at the signposts, and steer their companies in the right direction, in the same way that Google has. A-P

Indian IT-BPO Industry: Poised for Record Growth

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is the increased merger and acquisition (M&A) activity as providers are looking to build scale and acquire new capabilities rapidly, particularly to increase geographic reach and acquire key service segment capabilities, says Aggarwal. Efforts are also underway to deliver value beyond cost savings and sustain high growth levels through increased use of tools and technologies, adoption of standards and best practices, and leveraging a global delivery model. Many firms are beginning to adopt a vertical-based approach to cater to emerging market trends and consolidation among BPO players will be seen in the future.

A significant transformation is the growing aggression of IT-backed BPO companies, which remains a challenge for pure-play BPO companies. According to Aggarwal, 15 percent of the work is IT-BPO combined where IT companies have an edge, but the remaining 85 percent is pure-play BPO companies like Intelenet.

Also, there is rising competition in balancing the consumer/client base and price margins. This has forced organizations to be increasingly innovative and upbeat in quality to meet the customer demands, according to Zinnov.

The expansion to tier II and tier III cities is mainly from a standpoint of servicing the domestic market, which is a huge opportunity in the immediate future. The fast growth of markets such as telecom and insurance is happening in tier II and tier III 3 cities in India and it makes sense for these Indian service providers to be near the end customer to serve them better.

The Future Ahead

Companies outsourcing today need value and partners who could reengineer the entire business process, Aggarwal said. For example, organizations have various diverse needs such as multilingual solutions, multi-geography solutions, consultancy solutions, technology solutions and business process solutions that boost either efficiency or enhance productivity. Intelenet aims to partner with its clients and offer solutions that would effectively transform their business, thereby adding the desired value.

Gupta of GlobalLogic thinks that improving the supply chain is one way to remain competitive in the industry. As more Indian companies look towards becoming global players, they have to keep improving and looking at entire supply chains.

"Given their talent in R&D, Indian companies are capable of coming up with newer and better products and services. Tapping opportunities through innovation, building communities of best practices, adopting green IT, societal development and education and skills building is the latest call for the IT-BPO sector," Gupta said. "Today, India needs more targeted actions to capitalize on its long-term IT-BPO growth opportunity. Some of these initiatives should go toward enhancing the education system and continuing the current framework of fiscal incentives for the IT-BPO industry. We also need to constantly enhance efforts toward service quality and information security."

Industry Needs Government Support

According to Bhadada, the government of India has to do a lot more to move the industry forward and make the country the global outsourcing destination. While India has immense IT talents, the country is not able to exploit their potential mainly because they are hired by competitive markets. Bhadada suggests that building university-industry partnerships across tier I/II/III colleges and inviting international universities to set up research centers in India will limit the brain drain and also help the Indian talent pool keep abreast of advanced technologies.

Government should encourage partnerships with management institutes like IIMs, ISBs, etc., in creating professional degrees in Product Management. Enhancing tax incentives and encouraging start-ups will further boost the industry momentum.

Government should work with industry associations to form a consortium of all companies to formulate an industry standard for hiring and compensation. This committee should decide on minimum criterias for a particular range of pay scale. Also, companies should not hire people without proper documentation in place.

Government should work with industry associations to create awareness among people about the importance of data security. Bhadada also suggests that the government should create technical leaders with a global mindset. GOI and NASSCOM should conduct leadership forums more often to build this mindset among senior management.

Though the Indian government has taken various actions to improve infrastructure facilities, it is still a key concern for attracting business to India. India should continue working on its infrastructure projects to maintain its position on the global map. A-P

Battle Between WiMAX and LTE in the Asian Context

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losing end.

While many sectors compare WiMax as the Betamax of the 21st century, basing their prognosis on the deployment trend for LTE, it should not really have to be this way as both technologies can focus on their own niche and can even co-exist if operators would want it too. In light of this, there are ongoing attempts to integrate these technologies – resulting in even better benefits for end users.

In Korea, devices are currently being developed that would feature dual-mode capabilities that can use both WiMax and LTE. In the West, the Femto Forum from London is currently working with the Next Generation Mobile Networks Alliance to develop a femtocell solution that would enable the integration of WiMax and LTE. The results would be better wireless broadband coverage for personal, community, commercial or corporate applications. A-P

GREEN

PAYING THE PRICE OF EMISSION

BY AMANDA MIN CHUNG HAN

What if you have to pay more tax on top of your gas charge just because you use more gas than your neighbors? Would you think the tax is too much? Due to increasing concerns about climate change and greenhouse gas emissions, many countries – mostly in Europe – have already established and/or proposed a carbon tax. Not good news if you were a heavy user of gas.

So what is a carbon tax? A carbon tax, a kind of environmental tax, is a tax on the carbon dioxide emissions from the burning of fossil fuels such as coal, petroleum, gasoline and natural gas. Carbon dioxide is a greenhouse gas (GHG) that traps heat and raises the air temperature higher than the general temperature, much like the effect of a greenhouse, hence its name. As many nations have become highly industrialized, there are more plants and factories established all over the world. These facilities continuously emit more pollution into the air. To reduce the emissions of carbon dioxide, a carbon tax is charged to those corporations and households that produce more GHG emissions.

Recently, many think tanks began discussing when and how a carbon tax should be established in Korea. In March 2010, the Korea Institute of Public Finance (KIPF) strongly recommended the Korean government to consider establishing a carbon tax as one of its taxation schemes.

Dr. Jeon Byung-mok, director of KIPF, said at an economic policy forum, "To meet the expectation of greenhouse gas reduction, it is encouraged to consider a carbon tax along with carbon emissions trading."

While KIPF suggested a carbon tax without mentioning a direct tax reduction (a carbon tax is an indirect tax), the Korea Energy Economics Institute (KEEI) insisted that establishing a carbon tax should be considered along with a reduction of income tax and corporate taxes. In a recent expert forum on government policy, Oh Jin-kyu, a climate change researcher, said, "It is necessary to adopt a carbon tax system in stages." He suggested a plan to establish a carbon tax while reducing income tax and corporate taxes like EU countries.

Responding to the suggestion, the Korean government replied that the introduction of a carbon tax is not easy to decide immediately. Joo Young-sup, an official at the Ministry of Strategy and Finance, said, "Adopting a carbon tax requires cooperation with other countries; we are likely to decide the time to adopt a carbon tax after a good discussion with neighboring countries."

Recently, many think tanks began discussing when and how a carbon tax should be established in Korea. In March 2010, the Korea Institute of Public Finance (KIPF) strongly recommended the Korean government to consider establishing a carbon tax as one of its taxation schemes.

A carbon tax is already very familiar in European countries. During the 1990's, a carbon tax was established in Sweden, Finland and Denmark.

On Jan. 1, 1991, Sweden enacted a carbon tax, placing a tax of 0.25 SEK/kg ($100 per ton) on the use of oil, coal, natural gas, liquefied petroleum gas, petrol and aviation fuel used in domestic travel.

Finland established a carbon tax in 1990 as one of the first countries to do so in the world. Government officials placed a tax at $90 per ton of carbon emissions. Some corporations were exempt and only had to pay half of the portion.

Denmark also initiated a carbon tax in 1990. The country set a carbon tax at a relatively low level of around $50 per ton of carbon emissions. Businesses had to pay only half of the portion.

Norway established a carbon tax of $65 per ton of emissions in 1991.

The Netherlands also initiated a carbon tax in 1990.

However, not all European countries enacted a carbon tax. In 2009, France planned to initiate a carbon tax with a new levy on oil, gas and coal consumption by households and businesses coming into effect during 2010. The new carbon tax was set at $25 per ton of carbon dioxide. However, the plan was blocked by the French Constitutional Council on Dec. 30, citing too many exceptions, leaving half of the emissions untaxed. Recently, French President Nicholas Sarkozy said he plans on withdrawing a carbon tax.

In 1993, the UK government introduced a kind of environmental tax on retail petroleum products. The tax was designed to reduce carbon dioxide emissions in the transport sector. But this carbon tax was cancelled in 1999 due to political criticism.

In the Republic of Ireland, a carbon tax of $20 per ton was introduced in the 2010 budget in December 2009.

Recently, the European Commission said it will soon propose an EU-wide minimum tax on the use of automobile fuel, coal and natural gas and the draft legislation would be presented in the coming months. Until now, the EU head office has resisted pushing for a carbon tax because the issue has divided the 27 EU governments. Such a tax would require their unanimous approval.

In North America, very few states and/or provinces adopted a carbon tax system. In Boulder, Colorado, the first municipal carbon tax was passed in November 2006. It was a tax on electricity consumption. Revenues go to fund programs by the city to reduce greenhouse gas emissions and the tax generates roughly $1 million annually. In May 2008, the Bay Area Air Quality Management District, which covers nine counties in the San Francisco Bay Area, passed a carbon tax on businesses of 4.4 cents per ton of carbon emissions.

The French speaking province of Quebec became the first province in Canada to introduce a carbon tax. Energy producers were taxed, beginning Oct. 1, 2007, with revenue going to energy efficiency programs. On Feb. 19, 2008, the province of British Columbia announced its plan to implement a carbon tax of $10 per ton of carbon dioxide-equivalent emissions beginning July 1, 2008, making British Columbia the first North American Jurisdiction to implement a carbon tax.

Asia-Pacific countries also have joined the line of these front running countries. The New Zealand government proposed a carbon tax in order to meet obligations under the Kyoto Protocol in 2005. The plan set

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BUSINESS

Entry of Volvo in the Luxury Market of China

BY ANURAG AGNIHOTRI

The past several years have seen most of the Western world and other economies around the globe reeling from the onslaught of the economic crisis that gripped several governments – not to mention the economic downtrend experienced by several industries. The automotive industry proved to be no exception as major players in both mainstream and luxury car markets felt the stinging jabs wrought by this world crisis.

Alliances had to be made to ensure survival. However, the past major mergers proved to be terrible if not disastrous to the entities involved. David Welch from business week notes some of these marriages-gone-wild including the merger of Daimler Benz and Chrysler, as well as the acquisitions made by General Motors of Hummer and Saab. GM tried another go at it with unsuccessful tie-ups with Subaru, Suzuki and Isuzu. Asian corporate giants dived into the foray, led by Tata Group's acquisition of Land Rover and Jaguar, but it proved to be a struggling endeavor for this conglomerate from India.

But despite the worldwide crisis affecting major industries, China's car market, the largest in 2009, continued to enjoy a boom in sales. At the forefront is Geely Motors, the largest privately-owned Chinese automaker, which is now making history by finalizing the biggest overseas acquisition by a China-based auto company of a well-known Western car brand. In an unprecedented US$1.8 billion purchase deal, Zhejiang Geely Holding Co. signed a binding contract with a representative from Ford Motors for ownership of Sweden-based Volvo Cars.

While many see the purchase as an upstart move by a rising Chinese conglomerate eager to get its hands on an established Western product at a bargain price, others see it as a brilliant strategy that has been exemplified and manifested by the business processes and methods by founder Li Shufu. According to Michael Dunne of the Wall Street Journal, the Chinese business magnate is known to dominate a particular industry he has entered throughout the years, doing so through fast production and considerable cost reductions.

This success formula has seen the company dominate several industries from refrigerator parts to motorcycles and finally to the car industry. Now, it's taking the

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BUSINESS

Growing Japan-Korea Business Ties

BY BRYAN KAY

The March anniversary of Korean patriot Ahn Jung-geun's execution at the hands of the then Japanese authorities who ruled over the Korean peninsula and northeast China's Manchuria bought back into sharp focus the tenderness of relations between two nations that once related to each other as occupier and occupied.

Bitter feelings that have festered since Japan's colonial rule of Korea was brought to an end at the close of World War II were again brought to the fore by the landmark 100th anniversary of his death by hanging at Lushun prison in the Harbin, China. Significantly, the date brought together otherwise sworn enemies North and South Korea in what was a rare united front – underlining the importance of Ahn to the Korean nation on either side of the ideological divide.

For Koreans, Ahn is a hero, an independence fighter who took down the man seen as responsible for bringing about the end of Korean sovereign rule. But for the Japanese, he is a criminal and assassin who shot dead their own national hero, Hirobumi Ito, the governor general of the Korean peninsula and a father of Japanese parliamentary democracy.

But it is perhaps Korea's rising economic clout – and the downward spiral plaguing Japan – that best describes the story of the two countries these days.

And it's one that seems increasingly to speak positively of a country that rebuilt its post World War II and Korean War reputation on miraculous growth from the pits of poverty. Japan, of course, became a powerhouse of a different order, armed with its superior mode of development despite the damage wrought by defeat in the World War II.

Interestingly, some international watchers say they sense unease in Japan over the rise of the much smaller South Korea.

"I expected the Japanese to be feeling anxious about China, what with the much-ballyhooed moment later this year when the Chinese economy will become larger than that of Japan," wrote Gideon Rachman in his Financial Times blog in March. "What I hadn't expected to find was increasing alarm about South Korea – a poorer, smaller country that was once colonised by Japan.

"But, as it happens, the Japanese are increasingly contrasting their own struggles with Korean success. The most recent cause of anxiety was the Winter Olympics. The South Koreans did brilliantly and came fifth in the medals table with six gold medals. The Japanese didn't win any golds at all – and only got five medals of any colour."

Publicly, the relationship between the two countries may be one that has a tendency to flare up – particularly over the perennial problem of sovereignty of the disputed Dokdo islets, which lie in the East Sea (the Sea of Japan to some), the body of water separating the pair. But behind the scenes, some would suggest there is a more cordial tone. On a visit to Japan in July 2008, South Korean President Lee Myung-bak is said to have told the then Japanese Prime Minister Yasuo Fukuda to "wait" as he said he had no choice but to include the name Takeshima – how the island is known in Japan – in reference to Dokdo in school textbooks. The alleged remark generated outrage in Korea when the Japanese newspaper Yomiuri Shimbun published an account of the claimed exchange. It later removed the article containing the claims from its Website and the episode continues to rage as the report was taken to court by over 1,000 plaintiffs for infringing on Korea's sovereignty of the rocky outcrop.

A bulldozer to his critics, others see Lee as a pragmatist. And any doubts over Korea's economic credentials amid the financial storm set about by the collapse of Lehman Brothers under his watch were surely landed a blow by the country's quick emergence from its clutches with some positive looking data and indicators. And, if some analysts such as Rachman are to be believed, they are figures perhaps being looked at with some envy in Tokyo.

The economic gap is narrowing. While 20 years ago, the divide was mammoth, with Japan's gross domestic product 11 times that of Korea, today, the gap stands at only 5.3 times the size of its erstwhile colonial subordinate. Similarly, the slide between the values of the countries' respective stock markets was just as marked, falling from 10 times greater to 4.5 times during the same period, according to recent figures.

In the brutal financial year that was 2009, Korea somehow managed to emerge with the smallest of growth figures, while the Japanese economy slipped 6 percent.

But this shift, say market watchers, is down to more than mere economic growth on the part of Korea. A report from Korea's LG Economic Research Institute says the changes can be put down both not only to fast economic growth in Korea, but also Japanese sluggishness.

"The difficulty the Japanese economy is facing now is not a short-term cyclic recession, nor a long-term downturn of finance and manufacturing," it said. "It is chronically low economic growth."

In 2008 while still president-elect, Lee threw down the gauntlet with the boldest of statements as the year saw its first light. "If we put forward the right directions from 2008, we could overtake Japan within 10 years, and then become a close rival of China," he said during a New Year's speech in Seoul. These days, South Korea enjoys prowess as the world's No. 1 shipbuilder, an accolade that owes much to the fall of the industry in Japan – though China may have designs in assuming the mantle at some point in the future. Semiconductors, plasma TVs and mobile phones are other key industries that have contributed to the added muscle enjoyed by Seoul.

But Lee followed that challenge to his nation with some positive sound bites prior to an April 2008 summit with Prime Minister Fukuda, emphasising a need for the two countries to "let bygones be bygones." Lee said the continuing squabbles over historical disagreements had to be overcome in order to enhance future ties, an indication of his pragmatic approach to tackling immediate issues, principally economic matters. "Historical truth must not be ignored, but we can no longer afford to give up future relations due to disputes over the past,'" Lee was reported as saying.

The textbook issue was again brought to the fore early last year when yet more "historical distortions" appeared in new publications slated for issue to schools this year. And again recently, when the books were approved for use, the issue drew red flags from Seoul.

But could the various contentious issues that fester in the background have an impact on areas outside the sphere of politics? The small matter of a potential East Asian economic block that would include both Korea and Japan, in addition to mighty China – the pretender to Japan's throne as No. 2 economy in the world – is one arena that could be hampered by the lingering disagreements, according to some.

"I would say unification between South Korea and North Korea would come faster than economic integration between the three countries," Kwon Goo-hoon, an economist at Goldman Sachs, told local media last year, pointing to politics and the struggle over hegemony as major hindrances.

Others chimed in with a similar tone. "Despite the economic benefit, non-economic factors should be accounted for. See how Korea and Japan react whenever the issue over Dokdo arises," said Lee Chang-jae of the Korea Institute for International Economic Policy.

But in 2008, French professor and author Guy Sorman claimed this vision was not beyond the realm of possibility, telling local press that Korea and Japan would be united by common economic interest.

"If I were to make a guess or a bet, I am quite sure that sooner or later, you will have, between Japan and South Korea, a kind of a union, like in Europe, with a common currency," he told the Korea Times.

"If France and Germany were able to do that, after 1,000 years of war, Korea and Japan could do it too," he continued. "If you look at Europe, this is all part of burying our hostile past."

Elsewhere, Korea still has to deal with the two issues that the foreign economic press continually cite as strong repellents of foreign investment: strict regulations and militant labor inflexibility. And a recent Organization for Economic Cooperation and Development Report showed Korea to be at the bottom of the table of the 30 member nations, which represent the world's biggest economies in terms of the income disparity between men and women. Japan, though, faired little better, occupying the second from bottom position.

Across the East Sea, there has been some recent noise about improved relations with both China and Japan. Prime Minister Yukio Hatoyama, currently suffering falling approval ratings amid an election fund scandal, risky post office reform and a U.S. military bases dispute, said he expected relations with its two neighbours to improve because he was calling for the public to be more willing to acknowledge Japan's history of colonial rule and aggression, according to a report from the Kyodo news agency.

The Japanese wire service said that in an interview with the Egyptian newspaper Al-Ahram, he again advocated the East Asian community idea, adding he did not believe either South Korea or China were against the proposal.

"I believe Japan's relations with China and South Korea will be better than ever," Hatoyama was quoted as saying. "That, I believe, derives from the fact that we have insisted more than the previous administration that we should turn a serious eye to Japan's so-called past history."

He went on: "In East Asia, it has become very important to cooperate not just in the economy, trade and finance, but in such various aspects as human exchanges, cultural exchanges, education, the environment, energy and anti-disaster measures."

Japan is also seeing some of its economic lynchpins lose some of their luster, notably car maker Toyota. The manufacturer's plight has perhaps been best characterized by the recall scandals that have seen the brand's international reputation take a severe hit. It has also had to watch Korean electronic maker Samsung rise to the top of the pile.

At home, critics point to the boom periods of the 1960s and 1980s as seeds of the current problems. The population has contracted since, prices have come down and, they say, while the generations back then were encouraged to buy everything they needed and then latterly

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Q&A

SKY YIM

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1MW project, it would take at least six months. Previously, there were no time restraints, and if it took a year to build a plant it took a year.

Another reason is that the government wants to limit the size of projects. They prefer smaller projects carried out by local installation companies and want to limit how many large projects foreign companies do. Or at least it seems that way. They want to decentralize the distribution of electricity, which has become part of their roadmap on the dissemination of renewable energy. But it is difficult for our company to work under these constraints, because a company like REC cannot operate on small 3-to-100 kilowatt projects, since economies of scale aren't there.

Q: What do you think about the future of solar energy in Asia?

A: I would say it's good, there's a lot of potential. Why? Because in developing countries and regions, they have a lack of electricity transmission infrastructure. So solar power can be used as a stand-alone power source. For instance, a lot of mining companies use solar because they're way out in the middle of nowhere. So they are starting to use solar power to provide power sources off-grid.

Also in places like the Philippines, the infrastructure is very poor. They have a lot of islands, which makes it difficult to provide energy from a central location like a traditional fossil-fuel power plant. For places like schools, government offices and hospitals, it's easy to provide electricity with solar power. That's the good thing about solar power. Wind power is also good, but you can't stick a wind turbine on a roof, or in the middle of a school playground.

Q: How long do you think it will take to bring the cost of solar power down so that a common household can use it?

A: In countries like the United States and Europe, solar power is almost at grid parity. It's almost equal to the cost of conventional sources of electricity production. In tier IV areas in California, where the electricity price is really high, solar power has reached grid parity, which means the cost of electricity generation is at par with traditional power plants. But for developing countries, which rely on coal-fired power plants, we still have a ways to go. Coal power is the most polluting type of power generation and it produces a lot of harmful gases, but the cost of solar hasn't come down enough to make it a viable alternative for developing countries.

Also, the spread of renewable energies is heavily reliant on how much the government will support it – number one in terms of economic support, and number two in terms of social awareness. This is because the government has to take the lead to educate people on why renewable energy is clean energy, because of carbon emissions, greenhouse effects, global warming issues. It's up to the government to support renewable energy with regulatory guidelines and frameworks to make the projects possible. If there's a balance between local and foreign industries, they can make a win-win situation between the two. There's a learning curve for renewable energy, so outside experts are often necessary to get things off the ground. But to make it attractive for experts and technology to come, there has to be an incentive.

Q: What sets your company apart from other solar energy companies like U.S.-based SunPower?

A: We are fully integrated, covering the full value chain of production through to greenfield project development and realization. Not only do we produce the polysilicon and the base raw materials, we also produce solar modules, and we have our systems unit which does project development. Most pure EPC companies do not have the expertise for securing and structuring financing, so they do not undertake project development. Also, Greenfield project development entails development risks, which have to be very carefully mitigated in order to prevent cost overruns and to avoid regulatory barriers. In addition, we also provide turnkey EPC services to other companies as well.

Q: Why aren't other companies doing this?

Well, they are now. Manufacturers traditionally have only been manufacturers, like automobile companies. They make cars, but they don't want to deal with distribution, so they sell the cars to dealers. Manufacturers have always traditionally stuck to manufacturing products. But now, since there's been so much fluctuation in the industry, manufacturers are trying to smooth out the fluctuations themselves. For instance, in 2007 and 2008 there was a shortage of modules because there was, 1) a shortage of polysilicon, and 2) the Spanish government announced a drastic reduction in the feed-in-tariff, so all the developers there rushed to quickly finish up projects and took a lot of volume. This year, Germany has done the same thing, so the first half of this year, much of the volume of modules is going to Germany. There's also always an unstable demand for modules for the same reason. Just as an example, a project developer in Spain in 2008 might have ordered 50 megawatts of modules for the year, but over time the regulatory environment changed, so they weren't able to complete the 50 megawatts, and so the manufacturer is stuck with 30 megawatts of unused modules. Other developers might have an order for 10 megawatts but only use two. Of course, if the manufacturers are stuck with extra modules and there is an oversupply, the prices nosedive. The manufacturers increase their production to meet demand, but then the demand can drop unexpectedly. So now they have to drop their prices to get rid of excess inventory. The prices of modules then fluctuate a lot, depending on what country's government does what with their regulations each year. One country can be flying high but with one change of regulations, the market can pretty much go flat.

Q: What role can your company play in a market like India, and what projects are you looking for?

A: I'm not an expert in the Indian market right now, but what we can do is we can work with a local partner who has the requisite knowledge, which means knowledge of the business market in India. To work with a partner like that, we can provide technical knowhow, in terms of the feasibility, engineering, technical resources and the financing knowhow. It's not rocket science, but it takes solid knowledge and experience to successfully execute a project through to completion while avoiding costly development risks. Also, there are certain guarantees that a project developer must provide in order to secure financing, and as such, we have the financial strength to secure the financing. We'd have to know specific details of the regulatory market before we can undertake a project, though. My understanding is in India they also have a feed-in-tariff, but at the state level. And I have heard that support of the feed-in-tariff has not been established in many states yet, only two or three. I've also heard that some states, like Gujarat, have already closed all the bids for solar energy projects this year, already having received applications for 500MW of projects. However, in most state governments they haven't announced the feed-in-tariffs yet, so it's hard to say for sure when we will set up shop in India. A-P

JUSTIN HO

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entered into a JV to form a company called U:Gen in Sri Lanka to provide mobile banking services.

Globally, one of the most successful mobile commerce ecosystems was launched by Globe Telecom, an operator in Philippines, their service branded as GCash and is launched on Utiba's platform. Other than that we have been working with Maxis in Malaysia, True in Thailand, Bank of the Philippines Islands, etc.

Q: How will Utiba's solutions help the unbanked and underbanked population?

A: It is the unbanked and underbanked section of the population who do not have any sort of financial instrument available to them. People at the bottom of the pyramid (BoP) are the ones who will benefit most from M commerce, since they have limited or no access to establish financial systems. A study in the Philippines revealed that 58 percent of the unbanked population desired a financial instrument that will allow them to store their money safely.

It is this sector that wants to have some sort of financial instrument that gives them safe storage for their money and gives them a medium to transact this money without the physical exchange of cash. We therefore see huge potential for our services picking up in the developing economies and have seen huge traction for our services in the Asian and African markets. The success story of GCash has already proved it.

Q: Are you suggesting that these services will become the equivalent of a banking service?

A: Actually, yes and no. The evolution of multiple industries is more about market segmentation. You can get a massive selection of books at Amazon.com or got to a Borders Books store to be surrounded by physical books. With music, you can buy cheaper single tracks online or go to HMV to get advice about music. In the same way that budget airlines are the low cost providers versus premium airlines like Singapore Airlines, we see that banking services will evolve. The same basic service of getting you from A to B, but with a much lower cost due to a different business model and removing large costs out of the business. The wallet-based financial inclusion of the unbanked is more akin to this example and we therefore see that traditional banking and such financial services that we speak of will cross lines. A-P

Global Marketing Strategies in Korea

BY HYE-SEONG JEON

The quest for globalization involves both South Korean government and private enterprise. Because the Korean market only has 50 million potential customers, it eventually becomes the reasonable and smart thing to make a product for a wider audience.

The government's role has been to create as many opportunities as possible for foreign companies to partner with South Korean companies. This comes in the form of programs to support international cooperation for South Korean companies, and others to help foreign companies and research institutes do technology development, get labor, and R&D set up in Korea. There are also programs for the branch offices of foreign companies, helping them with tax benefits, land acquisition, and office setup. So if foreign companies know the system, Korea can be a land of opportunity for them.

Foreigner recruitment program

Additionally, there is a foreigner recruitment program for Korean companies. If a company can hire some foreign workers, they may receive funding from the Korean government. This both helps the company meet its monthly expenses and helps the company to reach out to a foreign market, if it hires foreign marketing experts.

Overseas buyers and partners support program

There are also several different programs made by national and local governments that give opportunities for Korean companies to meet foreign buyers. These matchmaking forums provide new business opportunities for Korean companies who are looking to make overseas connections. The Korean government also offers financial support for Korean companies to participate in these meetings and exhibitions, from 50% to 100% of their costs. Korean companies have many opportunities to participate in these exhibitions and get global connections.

Consulting support

The Korean government also offers consultants for companies which change their business field, have technical or management problems. Government consultants can find solutions for a company's specific problems, or the government can cover up to 70% of the cost for hiring independent consultants. These consultants are often experienced corporate employees from some of the largest conglomerates in Korea – Samsung, Hyundai, Lotte, and others.

Job retraining support, retired personnel recruitment and unemployed support program

Also, people in small businesses in Korea can get job retraining and education related to their current job, if necessary. The government can cover up to 100% of the costs of this job retraining. Or if someone becomes unemployed, they can also get 100% support for job retraining. Finally, there is a program to provide unemployed workers with company referrals, called the ONE STOP program.

One man company support program

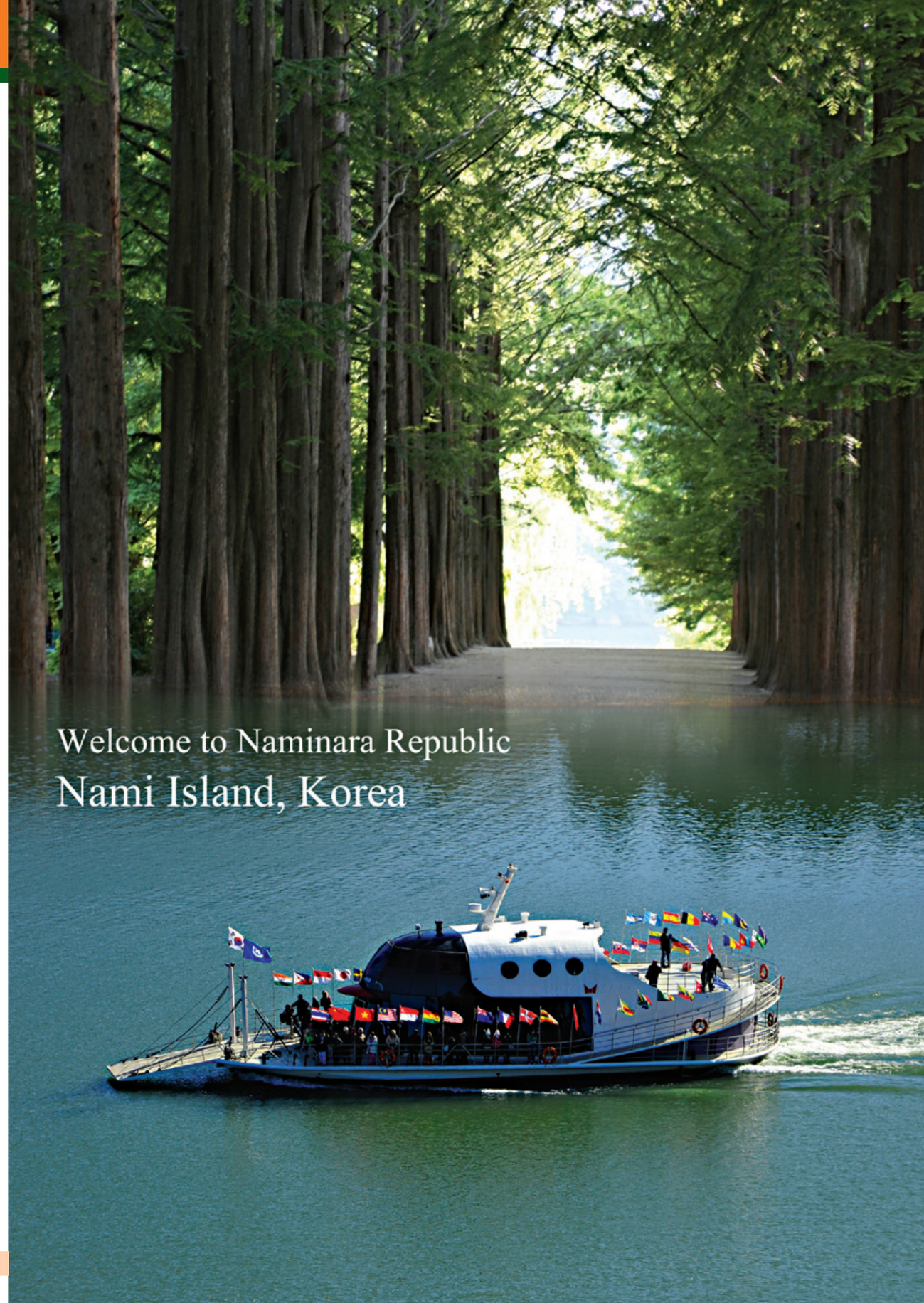
The Korean government also offers venture capital to any entrepreneur who can submit a good business plan. The reason behind this program is that there are too many university graduates each year for the number of new jobs available, which means that there are approximately 1 million unemployed people in the country. So in order to create new jobs, the government creates new businesses.

Online business support

Another way that the government helps small businesses in Korea is online. The government points potential exporters to search engines that are made to find buyers in other countries. Also, the government gives advice on using publicity in the target market so that the company can raise awareness of its products.

With these opportunities, any small or medium business in Korea can become more successful. It is a very supportive climate for Korean businesses to create new opportunities, hire new employees, and expand overseas. A-P

The writer is CEO of BARNET&COMPANY and is based in Seoul.



China's Advancements in Space Technology

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forecasting, territorial survey, agricultural output assessment, forest survey, natural disaster monitoring, maritime forecasting, urban planning and mapping. The accurate forecasting techniques have helped the nation prevent loss of life and property during natural calamities.

Foreign Collaboration

From 2000 onwards, China started collaborating with other countries in order to make manned space missions a grand success. The number of fixed stations on Chinese territory was increased to six. The country made agreements with France, Brazil and Sweden for the sharing of tracking stations. In 1999 an agreement was made with France to combine the work of the French CNES control center and the Chinese center in Xian.

The following year saw the Chinese gain access to the Swedish Space Corporation's tracking facilities in Sweden and Norway. Tracking stations were also built outside the Chinese territory in the Pacific, on the South Tarawa Island of the Republic of Kiribati and at Swakopmund and Namibia in Africa. A cooperative CBERS project was launched with Brazil, which led to the installation of Chinese satellite control equipment at a ground station in the South American nation.

What the Future Holds for China's Space Program

In 2000, the China National Space Administration (CNSA) was established along with other long-term programs. Its prime duty was the management of satellites for civilian use and inter-governmental space cooperation with foreign countries. The goal of this organization was to build an integrated Chinese military and civilian earth observation system.

The system will include meteorological, earth resource, oceanic and disaster monitoring satellites. A disaster monitoring constellation, an earthquake monitoring satellite, Double Star magnetosphere monitoring spacecraft and SST solar monitoring satellites form part of the system.

Another objective of the space program is to establish independent Chinese satellite navigation and positioning systems. A satellite constellation was to be launched in stages to build the Chinese indigenous satellite navigation and positioning industry. In the early 1980s, China began to utilize other countries' navigation satellites and develop the application technology for satellite navigation and positioning.

The Chinese Mission Control Center launched a pair of indigenous Beidou navigation satellites in 2000 followed by the development of commercial applications. Plans were drawn to launch a supplementary set of 30 medium-earth-orbit satellites to provide coverage for all users, which started bearing fruit by 2007.

China has plans to launch a man-tended space station in 2012, which may be followed by a visiting manned mission. The nation also plans to industrialize and market space technology and applications. China has put in place a space infrastructure system and extensive space education system.

Launch infrastructure have been developed with all facilities at the Jiuquan Launch site, Taiyuan Launch site and Xichang launch site. China's Tracking, Telemetry and Command (TT&C) system was constructed and developed along with the development of launch sites. Until the 1990s China's TT&C system consisted of a control center located at Xi'an city in Shaanxi province and eight ground stations. This network of optical and radio tracking devices and radio telemetry and command links boosted the early Chinese space program.

Starting from modest facilities, the Chinese space program has grown in leaps and bounds. The country has come a long way from a weak infrastructure with backward scientific and technological levels to an advanced level of development in all fields including space technology.

China excels in the fields of satellite recovery, single-rocket multi-satellite launch, cryogenic-fueled rockets, strap-on rockets, geo-stationary satellite launch and TT&C. The country has made remarkable advancements in remote-sensing satellites and telecommunication satellites as well as in manned spacecraft testing and space micro-gravity experiments.

According to Fu Yiqing a space expert and consultant to the Shanghai Institute of Space Propulsion (SISP), Chinese space technology is capable of making a moon landing very soon. The plans ahead for the moon landing include soft landing capabilities on the moon's surface and the use of a rover to explore the moon. China's ambitious plans further include the launch of the Tiangong 1 space laboratory, the development of docking technology and the development of Long March V large-scale carrier rockets. A-P

Broadband Brings Telecom Industry Back to its Monopolistic Tendency

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on the other hand, is not constrained by these factors.

The laying of dark fibers around cities can also be viewed as any other civic utility infrastructure like sewerage, electricity, etc., and the need to avoid duplication of the same. Is that not returning the monopoly to government?

Government's constraints

Government always has budget constraints in going it alone on a large scale. Government also has its limitations in meeting timelines because of open and transparent procurement procedures coupled with answerability to the public at large. In the Indian context, it includes the Rights to Information Act, Central Vigilance Commissioner, Auditor General, scrutiny by Parliament, etc. Also, the higher the controls of the government, the lesser the chances for competition for the private sector. So there is need for out-of-the-box thinking for a public-private partnership.

Way forward

One fundamental issue is the governmental urge to earn revenue. While on the one hand government wants broadband, on the other hand it always plans to earn maximum revenues through the auction of spectrum and other available resources. There is a need for government to provide spectrum to rural areas and unserved areas as a social cause.

One way forward is for local governments and utilities departments who need broadband for education, medicines and e-governance to build the infrastructure with government funds with private sector involvement wherever feasible, and then lease it out to an internet service provider or telecom operator for applications, operation and maintenance.

A large operator has its own compulsions for profitability and exhaustive set up. In most sectors throughout the world there has been co-existence between large and small players. The Indian telecom regulator TRAI has recommended allowing niche operators who can establish a network for smaller areas their choice, as against present policy of granting permission for the entire state. This concept needs to be encouraged.

The Singapore model of four separate levels can be considered; the infrastructure, the network services, the value-added services and the applications. It will allow enough space for the government and private sector to play their roles. Several players competing for a somewhat monopoly-based infrastructure will need proper regulation considering privacy and security issues. A-P

iPhone Shakes Up Korea's Electronics Market

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market. The app, which explains 2,500 economy-related Korean terms and English acronyms, was downloaded by 150,000 users in its first month of use, The Herald reported. That total may be equivalent to as much as 50 percent of all iPhone users in Korea at the time.

The app, which allows users to request that words they cannot find be added, was to be updated with an additional 200 words at the end of March. It proved so popular, in fact, that users of the Omnia2 and other smartphones began clamoring for it. In response, the ministry said it would add the app for Samsung's phone, as well as for those that use Google's Android operating system.

The South Korean government may also have hindered the iPhone's competitors through its identity verification system, a law which requires major portal sites in Korea to confirm their identities, such as through residence registration numbers. This was done to crack down on Korea's notorious problem with slanderous online comments left on message boards.

It had unintended consequences, though, in that most smartphone users cannot upload videos or post comments on YouTube. The JoongAng Daily recently reported that this does not hinder iPhone users at all, as Apple does not limit the functions of its products based on legal issues of a particular nation where they are sold. Contrast that with Google Inc., developers of the Android operating system – and YouTube's parent company – who have deferred to Korea's legal requirements. This means that phones using the Android operating system, particularly the Motoroi, won't be able to upload their own content on YouTube or leave comments on videos.

Market watchers here may remember 2010 as a watershed year in Korean electronics, as the iPhone appears to be changing how business is done here. That doesn't change the adaptability – or the determination – of Korean companies, particularly Samsung and LG, who can be expected to counter Apple's encroachment onto their territory.

But the ball apparently lies in the court of the iPhone's competitors. A-P

Entry of Volvo in the Luxury Market of China

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strategy one step further and is on the move to dominate the luxury market – first in China – and soon, who knows, probably the world.

About Geely Motors

Geely Automobile is the car manufacturing facility of parent company Zhejiang Geely Holding Co., which started as a refrigerator manufacturer in 1986, moving to motorcycles in 1994 and eventually to automobiles in 1996. The facility started exporting cars by 2003 and has an annual production capacity of 300,000 cars.

The term "geely" is derived from the word "Jílì" which means auspicious or lucky. Chairman and Founder Li Shufu needs all the luck he could muster to achieve his vision for the company to sell two-thirds of its production output outside of mainland China – a task that he acknowledges as difficult, but achievable nonetheless.

With this vision on the horizon, Geely started making waves in the international market, aggressively appearing as the first Chinese automaker to participate in prestigious international auto shows like the Frankfurt Motor Show in 2005 and the Detroit Auto Show in 2006. Geely entered the European market in 2007, but its initial attempt to enter the North American market in 2008 failed due to crash and emission test failures as required by the U.S. auto industry. What could have been a great complement to the 2008 Beijing Olympics was delayed until 2010.

With the March 2010 acquisition of Volvo Cars from Ford Motors, Geely is taking both the luxury car market in China and the current Volvo automobile operations and market by storm. This is seen to come into fruition by the third quarter of 2010, when all technical and commercial aspects of the deal are finally closed.

Ford's Acquisition of Volvo

Many say that Ford's acquisition of Volvo in 1999 was its response to the previous year's merger between automobile giants Chrysler and Daimler Benz. The $6.45 billion price tag that this purchase of the Swedish-based automobile manufacturer took produced a volley of issues and concerns from the auto industry. These concerns were rightly so as the industry at that time was churning out 15 million cars in excess of what the global demand was, resulting in more than 80 assembly plants that owners may find they have no use for in the current market.

This situation eventually took its toll on Ford as sales dipped tremendously, forcing the company to operate at a loss since the issues overtook them in 2005. Ford Motors had no choice but to release most of its foreign assets to recover its losses and pay off outstanding debts. With this refocus back to its original domestic brands, Ford has no choice but to relinquish its hold on Volvo Cars – and this is when Geely Holdings jumped in. Li Shufu believes that it can turn Volvo around, this time just by facing its own shores – the fast growing China luxury car market, touted to be the biggest in the world at present.

Geely Moves to Purchase Volvo from Ford

In a deal that began negotiations several months ago last year, Zhejiang Geely Holding Company and Ford Motors Company have finally agreed to an accord for the purchase of Volvo Cars for $1.8 billion. Li Shufu met with Ford Motor's Executive Vice-President Lewis Booth at the corporate headquarters for Volvo Cars in Gothenburg, Sweden to finalize the deal.

Li Shufu announced that Volvo would continue to be headquartered in Sweden, but will make a strong move to enter China's growing luxury car market – a move that will put Geely in the same league as luxury car giants Audi, BMW and Mercedes-Benz. Geely plans to achieve this by adding $900 million to the original price tag of the acquisition, hoping to turn Volvo Cars around and make it more appealing to its targeted market.

Implications of Volvo's Entry to China… and the World

With the acquisition of Volvo Cars from Ford, Geely Motors aims to compete with global leaders and crack the biggest luxury car market in the world – China. AFP Global Edition says that using the same cutting-edged technologies that Volvo used, which made it one of the most-loved family car brands, Geely projects to do well in a market dominated by Audi, BMW and Mercedes-Benz.

But first, according to analysts, Geely should ensure the public and its targeted markets that the Volvo and Geely brands would remain distinct from each other. Geely is known for its relatively cheap and affordable cars, a fact that many feared could be translated in the manufacture of upcoming Volvo cars under Geely's ownership. In response, Geely has given the assurance that Volvo will be independent in its use of its technologies, including the continued existence and operations of its plants in Belgium and Sweden.

According to Chairman Li Shufu's own words: *"I see Volvo as a tiger: it belongs to the forest and shouldn't be contained in the zoo. The heart of the tiger is in Sweden and Belgium – Its paws should extend all across the world."*

Geely's top executives have acknowledged the superiority of Volvo's technologies and will give the manufacturer a freehand in developing its current line of luxury cars with their own distinct features that are recognized across the world as uniquely Volvo. In the process, Geely can learn from this source of enormous technology to develop their own product lines and improve their image as a car manufacturer in China. At the same time, Geely will use the good image and branding that Volvo possesses to tap into the lucrative market for government luxury cars.

Current regulations in procurement can be to Geely's advantage as the government requires 50 percent of purchases to be Chinese brands. With more bureaucrats and government officials seen driving Chinese-owned Volvo cars, sooner or later China's wealthy middle class, complete with their enormously increasing buying power, will eventually switch to the Swedish brand. Currently, Audi leads the Chinese market for luxury sedans with more than 157,000 units sold in 2009. Volvo is a far cry with a little over 22,000 units sold in the same period. In anticipation for restored profitability, Volvo plans to produce 390,000 cars in 2010, which is more than the 330,000 units built in 2009.

What the Future may Hold for Volvo in China

Geely Holding's purchase of the Volvo brand would keep the management and operational structure of the Swedish company intact, while maintaining its original headquarters in Gothenburg, Sweden. This is an assurance that Volvo will keep its own Swedish heritage and engineering that American and European loyalists have grown to love over the years. But will the new acquisition suffer the same fate by maintaining the same management and operational structure that has been losing millions during the past few years?

Analysts do not think so as Geely have the most important element that will make the new merger work – the Chinese luxury car market. Geely is in the position to market the Volvo image and brand, and with Chinese ownership at the helm, this would be seen as more preferable by the targeted Chinese market. Aside from that, it would be inevitable that Volvo will start to have their own manufacturing plants in the heart of China – using the same Volvo engineering and technologies it has used throughout the years, but with a fraction of the high manufacturing cost that has characterized the Swedish and Belgian processing plants.

The result – higher profit margins and better business for Volvo – even more than it ever had as an independent Swedish car manufacturer, or as a former subsidiary of the Ford Motor Company. With Volvo's engineering and Geely's innovative car designs (a characteristic Volvo is not known for), the new merger is seen to churn out better, high-quality cars, at more affordable price tags than its overpriced predecessors. A-P

Growing Japan-Korea Business Ties

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invest in property, the bubbles have burst and today's young generation, they add, cannot afford to buy anything.

Writing in The Japan Times, columnist Philip Brasor said: "The 'dankai juniors,' meaning the children of the boomers, came of age in the early 1990s, and though they had fewer job opportunities than their parents, their ranks were large enough to keep consumption levels high. But in the last decade, the subsequent generation of workers hasn't been able to keep consumption at the same level, which is ironic because 2002-2007 marked the longest period of expansion in post-war Japan. If the average person didn't feel the benefits, it's because it was all tied to exports. Japanese companies remained competitive overseas by downsizing domestic work forces and keeping a lid on wages."

Recent export data have shown surges for both nations as consumer demand in Asia and the United States picked up. But late in March the Chosun Ilbo warned in an editorial that Korea can't afford to be complacent in its rivalry with Japan. Since the financial tsunami, the newspaper noted, Japan has shown signs that it wants to learn from the Korean example, with its ministry of economy, trade and industry setting up a Korea department.

"Japan has been shocked by recent developments where Korean businesses have either overtaken or are threatening to overtake their Japanese rivals, winning a major nuclear power plant order from the UAE," it said. "Koreans should be proud of that feat, but the nation still lags behind Japan in many areas."

The newspaper pointed to a lag behind Japan in U.S. patent applications, a trade deficit with the country in terms of technological products and in the far lesser number of indigenous goods that enjoy the largest world market share in comparison to the levels Japan enjoys. Though Korea had managed to achieve a bigger trade surplus for the first time in comparison to Japan, it said, its trade deficit with the Land of the Rising Sun was maintained.

So, the quest to achieve President Lee's grand plan remains somewhere in the distance, it would seem. For the time being, with much of the technology going into Korean products still coming from Japan, the onus, say analysts, is on improving innovation and science because, in that regard, Japan is literally streets ahead. Figures such as Ahn and Dokdo will likely remain political issues lurking in the background and sometimes, as we have seen, in the foreground. A-P

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Twitter accounts. With convergence the way forward it helps to integrate all your tools into one common channel.

There are other blogging solutions such as Blogger, which allows advertising and revenue generation. However, when I began I personally felt the ads were distracting to the reader.

Making your posts relevant

To decide on my topics I first polled my peers and colleagues. Based on their first inputs I drafted a list of areas I needed to address. Then armed with this knowledge I read various research reports, trend analysis, engagement metrics and local news. From this emerged my understanding of the topic and my perspectives that I posted on the blog.

How to involve your readers

Apart from sharing timely, relevant information, it is vital to involve and encourage dialogue among your readers. For example, poll their thoughts, ask for opinions, post questions which increase discussion and share other similar news that they may like to read.

As a blogger you must be constantly aware of thought leaders in the domain whose opinions matter. However, you need to be well versed in your domain knowledge to hold your ground in any discussion.

To improve my connection to my readers, I included content for students, practitioners and educators. This meant I added insights from India-centric great places for work, studies, job market reports and B-school updates, among others.

It helps to include relevant tags in each of your posts so that Google and other search engines can pick and cross link.

How to market your blog

Before marketing the blog, I ensured I had over 50 posts to my credit as well as many regular readers. I reached out to various publications to share my blog along with a covering note on the uniqueness of the medium, the domain and how readers can benefit. It helps to include relevant tags in each of your posts so that Google and other search engines can pick and cross link.

On your own it works wonders to allow 'incoming' links from other blogs or websites for increased page views.

I make it a point to share any new posts with my reader base via an e-mail so that they get to read it first. Also register your blog with blogging sites and on search engines.

Measuring the success of your blog

In my opinion, your blog is as good as your last post. This, in effect, means that unless you are consistent, relevant and engaging, your blog will soon become extinct.

I measure the success of my blog on the following parameters – a) quality of content b) depth of dialogue c) value add to readers d) reach.

For example, I know the blog is working when, for example, a student writes in saying she found the posts interesting and will use the insights to rewrite her CV. Or when an educator explains how a recent blog post got her thinking about a job change.

If I receive a comment from Chile that informs me that my blog is translated in the local language due its relevance, that is surely a big boost.

Of course the number of page views and clicks are other tangible measures of 'visible' success. At last count my blog had 162 posts, over 200 comments and 33,500 views – modest numbers for a blog of five years.

How to sustain interest

Like any online medium the blogger needs to reinvent and sustain interest among readers. You can sustain interest by keeping in touch with your readers, sharing relevant links and information and sometimes going to the extent of 'coaching' or 'guiding' readers on issues.

For example, a lot of my readers have asked me questions offline or via e-mail since they found it easier to communicate that way. The issues ranged from skills, competencies and career opportunities they wanted to get a better sense of. Some wanted me to play the role of a mentor and support their growth. There are also educators who connected to jointly write papers, conduct workshops and implement freelance assignments.

The blog's success will also draw journalists who want 'opinions' for stories they are writing. Many such opportunities have come my way from the U.K. and the United States.

It is important to be quick to respond and to appreciate the efforts readers are taking to understand internal communications better.

Beware of online tricksters

Before I sign off I wanted to share one piece of advice on blogging. While your blogging tool may provide you 'apps' that filter out spam mails, beware of online tricksters who post comments that are irrelevant but 'sound' similar to the content you are posting.

If you by mistake approve those comments you can end up compromising not just your blog but also your reputation.

There are others who will try to leverage the success of your blog by piggybacking on the page views and readership. For example, they may insert links and website URLs in comments that lead to their own personal pages. Use your best judgment while editing comments.

Final word – enjoy what you do!

In the end, what matters is that you enjoy your blogging experience and the interaction with your readers.

Give it your best and savor the pleasure of blogging. A-P

GREEN

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an emissions price at NZ$15 per ton of carbon dioxide emissions equivalent. The planned tax was scheduled to take effect from April 2007, however, after the election the proposed tax was abandoned in December 2005 due to the opposition of the minority parties. Later in 2008, the New Zealand Emissions Trading Scheme was passed into law.

Currently, the Australian government seems intent on pursuing a cap-and-trade system rather than a carbon tax. The Australian Greens propose an interim carbon tax of AU$23 per ton for two years.

Japan also seems ready to join the line pretty soon. The Japanese government considers adopting a carbon tax in 2011. The Chinese government also introduced its road map for enacting a carbon tax in September 2009, mentioning that it is advisable to establish a carbon tax between 2010 and 2013.

The main reason to enact a carbon tax is to change the behavior of consumers, households and businesses. A tax on oil and gas would be a burden on households and businesses, which encourage them to change their energy consuming behavior and get industry to be more energy efficient, not just to pay the carbon tax.

Many economists believe a tax on carbon dioxide is the most efficient market approach to climate change, because a carbon tax has the following advantages; predictable price, easier understanding and revenue can be returned via tax cuts and/or used for the public good.

Of course, there are people who do not favor a carbon tax.

Irish people were concerned when there was rising speculation that a carbon tax would be introduced in the government's supplementary April 2009 budget. Especially, rural dwellers that make up about one third of the Irish population worried about a carbon tax that would weigh more heavily on their households.

Also, since there is no limit on the amount of carbon that can be emitted, taxation cannot guarantee a reduction in greenhouse gas emissions.

James Emanuel, Commercial director of CantorCO2e, said, "Carbon taxes would be levied locally and so impossible to properly administer on a global scale. Moreover, taxation cannot guarantee a carbon emission reduction. Emitters could opt to pay the tax and continue emitting at will."

James Emanuel, Commercial director of CantorCO2e, said, "Carbon taxes would be levied locally and so impossible to properly administer on a global scale. Moreover, taxation cannot guarantee a carbon emission reduction. Emitters could opt to pay the tax and continue emitting at will."

There is a growing debate between two competing climate change policy instruments, carbon taxes and cap-and-trade (or emissions trading).

A cap on greenhouse gas emissions is an alternative government policy to a carbon tax. Emission levels of greenhouse gases are capped and permits to pollute are freely allocated or auctioned to polluters. Auctioning permits raises revenues that can be used to reduce taxes and improve overall efficiency. A market may be allowed for these emission permits so that polluters can trade some or all of their permits with others, namely, cap-and-trade.

Emanuel also favors cap-and-trade over a carbon tax and said "A cap-and-trade solution introduces a carbon ceiling and the price acts as no more than a useful barometer of how close we are to achieving that goal. Prices will tend to zero as the requisite level of emission reductions is achieved."

He added that he thinks the objective ought to be to achieve the environmental goal at the lowest unit cost and the goal can only be accomplished through the flexibility of emissions trading.

A cap-and-trade scheme is more appealing to private industry. By decreasing emissions, firms can actually profit by selling their excess greenhouse gas allowances. Creating such a market for pollution could potentially drive emissions reductions below targets. Generally, transferring resources between private entities is more appealing than transfers to government.

A carbon tax would offer a broader scope for emissions reductions. Trading systems can only be implemented among private firms or countries excluding individual consumers (transaction costs would be prohibitively high if commuters needed permits to fill up their cars with gas). Carbon taxes extend to all carbon-based fuel consumption, including gasoline, boiler oil and aviation fuels. Trading systems may not be able to reach parts of the transportation and service sectors that could account for 30-50 percent of emissions.

So which is better? It is not a simple question to answer and the policies are not necessarily mutually exclusive. Many governments actually combine a carbon tax and cap-and-trade policies to reduce greenhouse gases. Each policy has several important advantages and drawbacks. A-P

The Power of Blogging

Lessons from launching and running an Internal Communication dialogue on the web

This article is to share my experiences with blogging, provide guidance to those interested in beginning their blogging journey and provide tips to promote their blogs.

BY ANIISU K VERGHESE

For the uninitiated, blogging is a personal journal or a web log that allows you to creatively express yourself. Blogging is free, easy to begin and does not require you to invest anything more than your time and energy. Your blog can be about anything – a study of a topic, viewpoints on the world around you, your personal experiences, a photo feature, a travel diary or even a daily update of your life.

So why should you care? Today, blogging is one of the fastest growing modes of communication and is changing the landscape of how organizations and employees exchange ideas and collaborate. You have different kinds of blogging options – the usual blog which allows you to post any number of words, images and videos and the micro blog like Twitter, which accepts up to 140 characters.

According to social media experts there are over 200,000,000 blogs and a large majority of bloggers post content or tweet daily. It is important to note that bloggers who post about products & brands can influence peoples' opinions. With the growing importance of blogging, companies are tapping this channel to share information about their products or services to build awareness and equity among their consumers.

How I started

I began blogging on internal communications in 2006 to articulate trends, best practices and involve business communicators in a dialogue. Little did I know that blogging would one day open a world of possibilities for me.

In my interactions with fellow communicators and students at business schools where I teach, I often heard the need for understanding internal communications as a discipline and a career. My interest in this subject stemmed from my experience in employee relations and engagement, which I began early in my career.

Arriving at your blog's positioning and strategy

This is often the toughest, but essentially the most important, aspect of blogging.

To begin blogging I first needed to be sure of my topic and theme. I asked myself pertinent questions on tone of voice, expectations, language, audiences to target, blog marketing, frequency of posting and promoting the link, among others.

It took me a while to arrive at the appropriate positioning and theme to showcase internal communications as they evolve from my personal daily work. My intention to link perspectives from the industry and opinion of leaders helped this blog get a mindshare of its own. In India, internal communication is relatively unknown or rarely acknowledged as an area of expertise. It is also perceived to be secondary to other corporate communication functions and, hence, I spotted an opportunity to also lead awareness building and change in the industry.

Over time, I have received comments and feedback from people from around the world, fueling my belief that this medium indeed has a global impact and that blogging is well received.

Before commencing, I browsed the Internet for information on best practices in blogging. It led to my understanding of the blogging formula for success. From an employee-engagement perspective, individual tone, openness, context and timely information led to greater commitment. I read that Jonathan Schwartz (former President & CEO of Sun Microsystems), Paul Ottelini (Intel) and John Dragoon (CMO, Novell) were among the noteworthy corporate leaders whose blogs have a fan following. I began regularly poring over their posts to understand their success mantra. What emerged were parameters that can help other bloggers chart their blog's growth. I found that the successful blogs were spontaneous, conversational and disruptive. Spontaneity referred to the author's ability to spur debate. Conversational meant how engaging the posts were and disruptive indicated the uniqueness and appropriateness to a specific need.

Getting started with your blog

It is important to cultivate a 'personality' that is consistent and that emerges from the tone of voice, style of writing and responding to queries and posts. The blogger needs to demonstrate respect for his reader base and build opportunities for interaction. Try and understand your measures of success as well.

How will you know if your blog is making a mark? Some believe hit rates are a good measure while others vouch for a readership base.

To me, the quality of interaction and the direct feedback which readers post gives a good sense of what they think of the blog.

Before you begin, choose a good blog solution that will give you all the essential tools to manage posts, track and analyze your blog visitors. I use Wordpress, due to its user-friendly features, excellent reporting abilities and options to cross link from your Flickr and

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