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Globalization of Korean Cuisine

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Chairman, Nolboo Global



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Tel: +1 212 705 8900
Fax: +1 212 705 8999
society@comsoc.org, www.comsoc.org

Singapore Office
Fanny Su Beh Noj, Manager
1 Fusionopolis Walk, #04-07, South Tower
Solaris, Singapore 138628
Tel: +65 778 2873, Fax: +65 778 9723
fsul@ieee.org

China Office
Ning Hua, Chief Representative
Rm 1530, South Tower,
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Globalization of Korean Cuisine: The Rising Soft Power of Korea

BY EUN YOUNG CHOUGH

Lately, the Korean food industry has been spreading its wings within the international food market.



According to a research document provided by Korea's Ministry of Knowledge Economy in 2008, among the 1,523 Korean food-based franchise operations, 15.9 percent had opened at least one branch outside Korea. Of the 15.9 percent total, fast food accounted for 24 percent and non-fast food restaurants, including traditional Korean food restaurants, accounted for 12.6 percent. Amongst the backdrop of these developments, the Korea Trade-Investment Promotional Agency (KOTRA) and the Ministry of Knowledge Economy announced that they will assist ten Korean franchise companies to promote and establish their branches abroad in an attempt to increase Korea's 'soft power.' Assistance services to be provided include foreign market research, offering legal and accounting information and finding local business partners for Korean franchise companies.

Many Korean food companies are considering or already entering the Chinese restaurant industry in particular, getting support from the Korean culture wave, or Hallyu, which has been spreading all across Asia and beyond. AlixPartners, a global business advisory firm, reported that Chinese consumers are spending only 22 percent of their total food expenditure in restaurants, which is small in comparison to US consumers, as revealed in a recently conducted study. However, as the total income of Chinese has been increasing, the average spending in restaurants showed an increase of 10 percent in 2010. In 2009, the Chinese restaurant industry grew by about 11 percent to approximately 200 billion US dollars, and the study states that the Chinese restaurant industry will be undergoing continual increased activity in the near future.

With more Korean franchise companies



dipping their toes in the foreign market, Kim Soon-Jin, the CEO of Nolboo, also visions Nolboo NBG as a comprehensive global restaurant corporation. Driven by her ambition, Nolboo NBG emerged from the local Korean restaurant industry and entered the American and Malaysian markets in 1992. Nolboo NBG then entered the Chinese market via direct foreign investment.

In 2006, Nolboo NBG established its second corporate body in China and opened its first China branch in Beijing. In addition to China, the group also entered the Singapore market, contributing to the growing craze for Korean cuisine in these countries.

"When entering a foreign market, the company needs to have a discerning eye that can look beyond long-term goals," said Kim. "The company has to go through field

research and look closely into the 'details.' If you want to gradually succeed, your business has to figure out dining habits of its future customers and their culture."

The company's Yaksun Kimchi (cabbage that has been ripened with herbs, Japanese apricots and apples) is a representative example of these endeavors. The dish received Lifestyles of Health and Sustainability (LOHAS) Recognition in 2009, a first in the Korean food service industry. Yaksun kimchi is known to contain two times more lactobacillus than both the common kimchi and yogurt. Because of its popularity in many foreign markets, Yaksun Kimchi is now considered to have become a global cuisine favored by young and old, from Asia to Europe and the Americas.

"We made changes and improved the common traditional kimchi to make it more foreigner-friendly. In hot regions, it is difficult to have or make kimchi since the salted fish ingredient attracts flies. Also, foreigners feel uncomfortable when they have red pepper between their teeth after eating kimchi. Using chopsticks is another problematic issue for them." Thus, changes were made by using red pepper blended more than the common kimchi and less salted fish.

However, Nolboo's proficiency for success in this field was not built in a day. Twenty-four years ago, before starting her own bossam (steamed pork) Korean restaurant business, Kim went through bitter times, watching her restaurant close and reopen multiple times due to low profit. When her earlier restaurant closed, she opened a new 15 square meter baby octopus restaurant in Shillimdong, called Gollmokjip. Every morning, she went to the fish market, buying the freshest ingredients for customers, but still her business

KIM SOON-JIN | CEO OF NOLBOO NBG (Nolboo Global)

BY EUN YOUNG CHOUGH

'The guru of the Korean franchise business,' or 'A legend of success' are examples of how people describe the CEO of Nolboo NBG, Kim Soon-Jin. From her start as an owner of a small, five square meter-sized restaurant serving bossam (meaning 'steamed pork' in Korean) 24 years ago, Kim now oversees a total of more than 680 Nolboo Global branches, with locations in Singapore, Beijing, and Thailand. She manages over 6,500 employees and 650 million dollars worth of sales profit. Kim is currently expanding the company throughout the world, promoting the group's favorite menus — bossam and Nolboo hangari galbi (a cuisine of short ribs marinated in a jar) — and in doing so, supporting the globalization and standardization of Korean cuisine.



Q&A



suffered low profit. Not ready to give up her dream of building a successful restaurant, she then decided to offer a different menu for her customers and then realized her talent for making bossam kimchi, a kimchi made to complement the bossam dish. After finding the right menu items, her restaurant became regularly filled with customers, who visited not to taste baby octopus but to try her new bossam fare. This success led to the opening of her second branch, which brought about the start of her franchise business.

After years of continuous development

and hard work by a dedicated team of Nolboo food scientists and specialists, by 2005 the Nolboo Group had opened more than 300 franchise restaurants all across the country. At that point, the group could not yet think about establishing a standardized IT system to control these hundreds of branches across the nation. Yet as the number of franchises increased, communication between the main office and the individual branches became harder to manage. When new policies, announcements, or menus were developed at the main headquarters, it was difficult for the company to deliver

its message efficiently to all of the branches. Kim then devoted efforts to establishing a standardized IT infrastructure system by initiating an Information Strategy Project (ISP). As part of the company's efforts to provide an improved taste and menu selection for its customers, Kim constructed a high-tech system incorporating POS, SCM, ISO, and WMS.

The factor that set Nolboo NBG apart from other Korean cuisine franchise companies was its method of systemization and standardization. Twenty years ago, when Kim initiated the Korean cuisine franchise

business in Korea, it was not considered a food service business. Therefore, there was no standardized service providing coordination. On top of that, since Korean cuisine was considered difficult to make, it seemed impossible to provide a standardized menu and taste among different branches.

"In the case of Korean traditional food, the cooks and technicians have a hard time managing the process because it has to be looked into so frequently. Also, when making Korean food, it cannot be done by a single chef. At least two or three more people have to assist when making the cuisine."

However, Kim did not give up. By devising a menu based on scientific methods, Nolboo NBG successfully created recipes that produced the same unique taste of the company's dishes in any branch. Also, before authorizing the opening of new branches, they operated test marketing for six months.

Another contributing factor to the success of Nolboo NBG's franchising was a highly systematic supervision system. To ensure the designation of a franchise as one of the best in a given area, supervisors visited the branches and provided various educational

directives regularly and frequently to help the owners fortify and maintain the brand's competitive edge. The NBG headquarters also offered on-site promotions and mass media marketing for the franchise owners.

Kim believes that Nolboo NBG's competitiveness comes from the market evaluation of the taste of the food (which is the most critical factor in the restaurant business) and the customers' loyalty to the Nolboo NBG brand. To gain this trust and loyalty, Nolboo NBG strives to provide its customers with food of the highest quality. In order to do so, Kim created a 'Central Kitchen'

Can you tell me about the history of Nolboo NBG Group and your own background in the Korean cuisine industry?

Nolboo brand had its earliest beginnings in 1987 when I opened 'Nolboo Bossam' in Shillimdong, a southwestern part of Seoul. In the following year when the country was striving to present advanced culture to foreigners for the 1988 Seoul Olympics, our company also made efforts to find a scientific and systemized menu for our customers. As a result of our hard work, we found it was possible to get rid of the stereotype that Korean cuisine cannot be 'systemized.' We also successfully established a franchise system of our own. From 1989 our franchise business began in earnest. Behind the company's founding our customers were always there, which became the source of the company's motivation to operate based on customer-oriented management. In 1992, we systemized our second brand, Nolboo Budaejjigae (spicy soup with ham, ramen noodles, tofu, and other ingredients), which is currently leading the market in Korea. Along with dishes such as Nolboojib hangari galbi (grilled beef or short ribs marinated in a jar) and Nolboo yoohwang ori jinheuggui (sulfur duck roasted in mud), we are promoting a Chinese restaurant named ChaRung to build ourselves up as a total restaurant corporation.

Why was the name 'Nolboo' chosen for the company? What kind of brand image does your company portray?

I was searching quite a while to find the right name to represent our company. Then one day, all of a sudden the word 'Nolboo' appeared in my head, which is a Korean traditional character that has a fierce and covetous image. When selecting the name, I had one criterion in mind: it had to be a name that would be recognizable regardless of one's age. Also, the name had to be recognizable even though a person hears it for the first time, and it had to correspond well with the image of Korean cuisine. I thought there would be no other perfect character in Korean folktale lore than Nolboo, since it is widely known to Koreans. On top of that, I was fascinated by the image Nolboo possessed. I thought we would

garner more interest if we put up a sign stating 'Nolboo' instead of 'Heungboo' (Nolboo's kind-hearted brother and one of the most favored character by Koreans).

How has your company modernized the concept of Korean cuisine without compromising authenticity?

The road to maintaining the slow-food spirit of Korean cuisine while modernizing and popularizing it via mass production was not easy. This entailed complicated and numerous steps. Come to think of it, I would say the process was more of 'popularizing' the cuisine more than 'modernizing' it. Bossam was tricky to commercialize because bossam is a difficult dish to cook at home. So, I made a manual for the recipe and simplified the cooking process to preserve the same unique taste in all Nolboo restaurants. With continuous trial-and-error, our company manufactured a 'central kitchen' to provide the same quality of food to our customers. For our customers to experience the best Korean cuisine at our restaurants, we are continuously educating our managers and operating our branches by detailed manuals in an effort to systemically supervise them.

What is the organizational structure of the Nolboo NBG? What are the different divisions of your company?

Our company has a hierarchical system to help establish our middle- and long-term strategy and goals. It is well-structured enough to be comparable with bigger corporations. Our headquarters handles strategy and marketing, foreign business operations, sales and supervision functions of the company, while our production headquarters located in the Northern Chungcheong Province manages production of all the food that is distributed to restaurants, and our distribution center administers the products and manages delivery. More specifically, we have an operations office that leads middle- and long-term plans for the company, an R&D department that creates menus and marketing strategies, a direct management office that oversees the restaurants of the company, an affiliated business office that advises all national and foreign-based franchise restaurants, an education team that instructs

on-site employees, an accounting and finance team and a team managing the company's IT system. But one of the most unique parts of Nolboo is the direct management office. It is unusual for a franchise company to specialize in direct branches while managing them. This strategy is needed because in order to expand our franchise business we have to successfully manage our model branches.

Your company runs more than 680 Nolboo restaurants in Korea, and you have received numerous awards for outstanding business management. What is the secret to successfully managing such a huge franchising business?

The food service business has a critical connection with health. In this sense, building trust with customers is important above all. So I try to keep the same faith and determination I had when I started this business. Over the past 24 years, 'credibility' became Nolboo's deep-rooted culture and philosophy. We tried to approach our customers and to sell credibility and quality not only with regard to our products. As trust is an important factor in human relationships, any food service business that has effects on the health of its customers also relies heavily on building trust and interpersonal relationships. Each member of our company is working hard with the responsibility to establish a trust-based relationship with our customers. At Nolboo we have two main types of customers: the affiliated franchise restaurants and the customers that visit these restaurants. Our mission is to make the customer who visits our branches happy while also providing the means of a joyful working relationship to our franchise owners. Globalizing this relationship is our larger vision. To make this happen, we are building trust with our affiliate branches and pursuing a win-win management strategy. This kind of partnership base we have built will be the foundation upon which we will establish Nolboo as an international brand in the coming future.

What sets your company apart from other Korean restaurant franchises within Korea?

In the franchise business, supervision is more important than

anything. One of our strong points is the 'supervising' system that manages affiliated branches and provides the bridge for smooth communication between our franchise owners and headquarters. By visiting our branches regularly we check the sanitation status and monitor the overall management situation. If a flaw is noticed we discuss how to tackle this problem together. The idealistic supervising system that I have in mind is one that also provides sympathetic support on top of the system we have now. One of the many secrets to our group's long period of success is supervising. We start our day by listening to each and every owner of the branches and customers. The advice and opinions of our customers is the base energy that makes our company operate.

Nolboo participates in a variety of charitable endeavors. What are some of these projects? Why are they important?

The Nolboo scholarship committee was created in 1991, when I was thinking how I might use the lecture fees I was receiving at that time in a meaningful way. After some consideration, I decided to help children who were lacking resources to study, which was the same situation I went through when I was growing up. For more than 20 years the scholarship committee has been providing change in the lives of many students. Every year on our company's anniversary, we give out scholarships to students such as children of the model branch owners, students from abroad and talented Korean students. Also, at the end of the year, our entire staff participates in events helping the disabled.

I believe the role of a corporation is to fulfill its duty as a social enterprise while creating profit. Today, the social responsibility of a corporation is not a choice but rather a necessity. Our company's fundamental philosophy is to provide dishes that can also contribute to the wellness of our customers. I hope more corporations and business people will participate to give back some of the profit they have received to the public, thereby contributing to the 'culture of donation.'

After Nolboo's establishment, how did the Korean food service industry change? What are some of



system that helps franchises to provide a standardized taste in their various menus. This system allows the franchise owners to maintain price competitiveness by manufacturing mass products intended to maximize profits.

"Our company is operated similarly to

other franchise companies," said Kim. "But if I had to name one part of our company that is run differently, I would say it's the Central Kitchen system. We operate this system at our branch in China, as well as the Thailand branch and the Singapore branch."

According to Kim, the success of the Nolboo group's franchise business was made possible through building a firm trust with the franchise owners and the customers. When operating a franchise business, how well the group systemizes the process is the key to determining the group's failure and success. So the group is investing heavily in the company's inter-educational system. It also established a division involving book discussions and it has been investing in social educational projects.

"As time went by, the competition in the franchise market became peerless. But I think the franchise market is still in the growth stage. What we need is a standardized franchise market in Korea, along with the wisdom to overcome this transition period."

Today Kim Soon-Jin, the CEO of Nolboo NBG, is living proof that traditional food can go global by serving more than just food items. According to Kim, the key to entering the global market of traditional food is to deliver cuisines that convey value and respect to other cultures. Once this is done,

she says, both national and foreign customers visit the restaurant again and again to have that special Nolboo experience one more time.

"Delivering a certain taste to our customers is important, but approaching our customers with emotion is more important. Our company is working hard to produce a product that is more than just food which can settle an empty stomach."

Kim oversees 680 Nolboo restaurant branches including ones in Singapore, Beijing and Thailand, with 120,000 customers visiting her franchise restaurants in a single day. Additionally, she manages eight brands including Nolboo Bossam (steamed pork), Nolboo Budaejjigae (spicy soup with ham, ramen noodles, tofu, and other ingredients), Nolboojib Hangari Galbi (grilled beef or short ribs marinated in a jar), along with a premium Korean cuisine restaurant 'Suraon' and a fusion Chinese restaurant ChaRung.

It can certainly be said that today Nolboo has become Korea's first global cuisine company to take its culture and heritage to great heights on the world stage. **A-P**



your company's strategies to cope with these changes?

As the number of franchises of Korean cuisine increases, the competition in the food service industry becomes keener than ever. New items in the food service industry have been encouraging companies and affiliated branches to influence the current consumption trend. It is a good thing that the market is growing bigger, but the instability of the supply and demand of raw materials is a serious problem. Since the market is moving towards a high production cost system, in order to secure our quality and marketing competitiveness, a lot of money has to be invested in products and brands.

How do you think the Korean food service industry will unfold in the future? What role do you think globalization of the Korean cuisine will play in the Korean food service industry?

Recently, the Korean government selected the food service industry as a value-added business in the New Growth Engine Project. At this point, I think this is a golden opportunity for us, and businesses in this industry should work together. Also, I think the convenience food market will expand due to rising prices of commodity goods, since people are tending to eat more at home instead of dining out. Also, the purchasing trends of singles and working couples have contributed an increase to the sales of 'convenience foods.' Our company is planning to supply fresh and trustworthy ingredients in our convenience food products so that our customers can enjoy the same dishes at home without visiting our restaurants.

Globalization of Korean cuisine will certainly offer an opportunity to foster the growth of the franchise industry. For the industry to grow, a system has to first become established. Thus the government's effort to encourage the franchise in-



dustry will have a positive effect on fortifying the competitiveness of small and medium-sized businesses. As they gain competitiveness in their brands, the franchise industry will be more active.

Does Nolboo plan on expanding into markets outside of Korea? What kind of plans have been put in place for Nolboo to enter into these markets?

Our group has foreign-based branches in Beijing, Shanghai and Singapore, and we are currently localizing our foreign businesses. When a certain product is loved for a long period, it becomes a trend, and if this trend is maintained long enough, it becomes part of the culture. I think about globalization of Korean cuisine in the same way. Like a farmer sowing seeds, I am planning to spread my love of Korean cuisine so it can continue to develop as part of a greater, worldwide culture.

What are some other short-term and long-term goals for your company?

Nolboo NBG claims to be a cultural business that sends happiness through our food, and individually, I am claiming it to be a cultural missionary. Since the world has become a single market, competition has grown more severe, and the trend is changing towards respecting 'value and individuality.' I became more interested in our culture, because I naturally realized the value of the knowledge and wisdom of our ancestors that is contained in our traditional food.

One of our company goals is to create a vision of Korean food culture that connects the past and future. To become a global cuisine brand, Nolboo needs to gain more competitiveness in the global market. This, I believe, is the role of a cultural missionary. I hope that one day our Korean food will become one of the most favored foods in the world, and that our company will be widely recognized when people think about Korea. **A-P**

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Bob Aubrey

BY VICTOR FIC

Bob Aubrey (bob.aubrey.com) is a global consultant, entrepreneur and author. He earned a BA at the University of California, then a Ph.D. in philosophy and an MBA in Europe. For the past 10 years, he has been based in Beijing and now Singapore. In 2002, Bob founded Metizo, a personal development company, to deliver consulting ideas and individuals to create economic value in organizations. Metizo operates in Europe, China, Singapore, Australia and Brazil. He is also Professor of Personal Development at European and Asian schools. Bob has authored 7 books published in 7 languages on learning within companies, personal entrepreneurship, education and management, most recently 'Managing Your Aspirations: Developing Personal Enterprise in the Global Workplace.'

Bob gave this exclusive interview to Victor Fic, our special correspondent for Economics and Politics.

Talent development sounds like show biz...what does it mean in a national or the global economy?

Talent development is a glamorous word lacking precision. Sometimes it means the best and brightest people where you build an elite to lead your company or country. Or companies are warring to recruit the best talent for competitive advantage. Now there is a lot of criticism about the elites because if your company spends time to recruit and train people well, then everyone has talent that contributes. So you must enlarge your investment in people through training, mentoring and job mobility for most employees.

Whether you take an elitist or broader view, it is not about innate qualities. You must develop people to make them talented. Just like in sports or the arts, people have potential but training and experience makes a star. What is new is that in today's world, we find talented people around the world and we employ them that way. So the training, mentoring and work experience must foster talent internationally.

But to develop talent, you must first have much of it too. So what qualifies you to be a developer?

No, because not all star athletes make great coaches. And great people developers may lack the personal talent to be a successful business leader. Some companies shift a good operational manager into the top human resources (HR) position because "they have the experience" but discover that different skills and knowledge are needed.

Yes, because there is no substitute for experience so a strong people development program requires a mentor who is a senior manager with experience plus professional human development experts inside or outside the company. But experience is not enough! A mentor must focus on others and understand individual differences. Mentors must look critically at their own development and not produce clones; they must master the concepts, tools and methods of effective personal development.

As for me personally, I have the rare combination of having created talent systems for companies and business schools as a consultant and the experience of creating and developing my own company.

Bob, discuss factors such as your research over four continents and thousands of MBA types.

My focus on talent is on the personal development dimension. I'm not an expert in all areas of talent management, such as,



for example, recruitment. And although I studied a lot of psychology at university, I believe that the psychometric tests used to assess talent are limited.

My approach came from working with young entrepreneurs. Fifteen years ago, a business school in France wanted to help young people start companies by giving them access to a team of experts for a week. The school had finance experts and marketing experts but they needed an expert for the entrepreneurs partly to help them write a business plan. I discovered that asking questions related to personal enterprise succeeded. You must answer tough questions to create a Personal Enterprise Plan. What is my identity? What do I want it to be in the future? What are my strengths and what must I learn and develop? How can aspirations become a feasible and flexible strategy? And above all, why do I want this dream to materialize?

Our readers will benefit because you are a pioneer. Describe the personal development certification for colleges and corporate leaders that you started.

When I started Metizo in 2002, another French business school asked me to design a personal development program to take all students in the different degree programs through a unique education experience and certify their learning. So I developed this Personal Enterprise methodology with the rigor for academic accreditation for two thousand students yearly. That dream was the starting point of personal enterprise.

There was little existing research on ba-

sics like whether all students had dreams or if these dreams are consistent as they move into careers. So I researched it. Youth do dream but are unsure which ones to invest in. Several dreams may clash. Also, an individual usually doesn't jump from dream to action. Time and learning make the dream an aspiration, which I define as a future that the individual intends to realize. We researched across cultures and age groups and created processes and tools for the personal development process. That led to the Personal Enterprise Plan, the equivalent of an individual's business plan. After eight years of research and testing, I put it into a book.

Tell us more about your role in Asia's first MBA for talent professionals.

Once the program was running in the Euromed Management School in Marseille, France, I realized our innovation in creating the first personal development program ending in certification. This was recognized as a best practice in 2005 by the European Foundation of Management Development, which audits the quality of business schools and delivers EQUIS accreditation. When we won that, we had already developed certification of managers in mentoring in companies, starting in China in 2004. So we could certify the competencies needed to develop one's self and the others.

But what about developing whole companies?

My consulting exposed that new professionals called "talent managers" in companies lacked solid knowledge and skills. Many came from human resources and had an HR approach or they were from marketing functions and focused on employer branding without knowing how to develop people. And a third kind was an operational manager - often ready for retirement, and shifted into a new position without understanding.

Seven years passed from the mentor certification's start to the launch of a third level of personal development. That was when Euromed Management School let me create a new track in their joint venture MBA program with Jiaotong's Antai Business School in Shanghai. How perfect, as Chinese companies urgently must develop managers into global leaders if they take over foreign companies. This new track is a specialization within the existing MBA and welcomes outside professionals as an executive program if they do not want or need the MBA education. It is the first of its kind

My focus on talent is on the personal development dimension.

in Asia. I am excited to design and manage this program.

Were you smart to relocate to China - if so, why?

Yes, no doubt. I was publishing books in China in the 1990s and was convinced that the economic opening would create a global shift. That became irreversible in 2002 with China's entry in the World Trade Organization. What if I had stayed in France? Professionals who don't know Asia - what a handicap! For the company, it was a great business move starting with the rational choice of going to the market. And it immediately gave my little company the presence to work with multinational clients.

Your book says a professional might break from routine to ask, "Am I reaching my dreams? Am I the person I want to be?" Is this a turning point?

The question of how your present job and lifestyle match your dreams is a key dimension in today's career management. It used to be called the midlife crisis, the term invented by Daniel Levinson in 1978. He first studied how young adults project themselves into the future using the language of dreams and he was the first to study life stages as a sociologist. He observed that at around the age of 40, adults ask themselves questions. This led him to formulate the idea of a life choice - go for the dream or security or simply inertia? In Levinson's time, the norm was to stick to one career until retirement. Today we have career changes as the norm. So the question is not a crisis but a normal part of career development. Sometimes it means breaking off, but often it is a more controlled transition. And parallel careers are normal. For a dual career couple, realizing dreams is part of the marriage. An individual can have a portfolio approach to work where his aim is money but investment in work to help others without remuneration. That is a good for preparing a career shift, especially if the volunteer work is strongly linked to a dream that could become a future career.

Now you claim to have a black bag containing special tools... please tell us more, for instance, about mentoring.

It was a black bag, or the intellectual property of Metizo. But the book publicized many of the key tools, especially the full description of the Personal Enterprise Plan, with explanations and examples of each component.

I will fully describe mentoring in my next book about developing others, entitled, Aspirational Leadership for the End of 2011.

Briefly, mentoring is a tool of aspirational leadership. When leaders develop people by understanding their aspirations, then they can tap into this deep motivational energy



of dreams. But they must be mentors to develop those dreams as partners. The leader must change his or her understanding of the relationship with employees. Avoid creating dependency or manipulating employees to be loyal or engaged. Forge a relationship of trust while matching company and personal goals.

Many managers cannot change to this new perspective, so mentoring programs must be structured with training at the beginning, and with a toolkit for mentors and certification of competency at the end.

You claim to help give value and meaning to people's lives and careers, but isn't this something that top performers personally do?

A consultant or a leader does not give value and meaning. Each role requires understanding people's values. Yes, you can develop value and meaning. But you don't give it to people. Understand and leverage what they bring to you for an organization-person win-win outcome. Do top performers do that? Some people manage their own development within a job framework that measures performance. But it isn't automatic.

A famous tool in any management training program is Maslow's pyramid of needs. The bottom has the basics for survival like food and shelter. The top has what Maslow called "self-actualization." That picture is used 40 years after Maslow published it. But he believed that maybe 1 percent or 2 percent of employees are self-actualizers. Today, our aspirational world and need to manage our careers for years demands everyone must self-actualize. We must balance our career's value and meaning with

life. It is almost never a perfect match, so we must strategize it. That is why I use the expression 'personal enterprise.'

So a top performer may have that match at a particular career stage in a company that gives meaning and value to that specific job. But life changes and he must competently rematch at different career stages and companies.

You assert that it is better for the person to leave the firm to achieve his dream and that the latter should help. Please elaborate.

That is a misunderstanding. If you are a leader, assume that people will take responsibility for realizing their dreams. You have a moral contract based on a temporary partnership that change requires you to renew. So you must know that person's life direction and help them analyze priorities. Or they will knock on your door on Friday saying that on Monday they are going to follow their dream elsewhere.

We can't manipulate people through a mentality of loyalty to the company these days. Famous firms like HP and IBM formerly codified that they would never fire an employee. Nobody says that today. So you can't have a one-way relationship where employees are dependent but the company can be bought tomorrow or make massive layoffs in a downturn.

And what to do if a worker is not performing or if no job in your company allows that person to develop a career? Here you must create a win-win exit to help your employee with the next step outside the company. But it is also required that your employee identifies and trains a successor for the job. [A-P](#)



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Lean Transformations in Asian Organizations

BY KEVIN LIU

In Asia, the constantly-changing and increasingly competitive global market environments have prompted many enterprises in the region to focus on improving the speed and efficiency of their respective manufacturing processes.

Many find that the traditional manual processes they have used in the past, based on the abundance of cheap skilled labor in the region, are no longer effective in keeping up with the pace of the current business environment. Many have shifted paradigms and adopted lean transformation as a better manufacturing concept.

To further improve efficiencies, these companies have integrated IT applications into their lean manufacturing environment to cope with the growing need of handling enormous amounts of data across all stages of the manufacturing process. This would result in a more accurate and better controlled handling of critical information in real time, thus improving the quality of their just-in-time delivery systems.

The manufacturing sector, however, is not the sole area undergoing lean transformations; it is occurring in other businesses and operations across various industries as well. This includes everything from healthcare, development of high-technology products, IT operations, publishing, retail and any other business that involves certain forms of operations. Lean transformation can help these industries identify and eliminate operational waste and other unnecessary activities, resulting in more streamlined and

more efficient operational processes.

The challenge, however, for operations managers in the Asian region, is to identify the specific lean strategies that will be applicable to their particular niche or industry. There are several elements that should be taken into consideration, from differences in the workforce culture to variations in the operational infrastructure. A particular lean strategy that is successful in one scenario may not have the same success in another.

The following provides a brief look into the lean transformations underway right now in many Asian organizations, and how these enterprises successfully implemented and made lean principles work for the betterment of their organizations.

Lean Manufacturing Principles and the Toyota Lean Manufacturing System

For people not familiar with lean principles that are used in various industrial operations, the concept can be summarized as a set of tools and operational practices that involves all levels of the operational environment with the aim of eliminating material and procedural waste and increasing efficiencies. The result is a more streamlined and efficient production, with higher output quality, lower operational costs, and faster cycle times.

The following describes in brief some important facts about Toyota Motor's lean practices that were developed and perfected over the last five decades and applied in one of the most competitive of all industries.

- **Lean Manufacturing System** – the principles of lean transformation in use at present were based primarily on the Toyota Production System (TPS) used in Japan. Many principles, words, and phrases used in modern-day lean manufacturing lingo such

as andon, kaizen and kanban were derived from the TPS.

- **Heart of the Lean Manufacturing System** – If the heart of the lean manufacturing system can be summarized into one word, it is value. It is the one thing customers would want from a product or a service that they would pay for. Lean manufacturing is all about focusing all operational resources into creating value-added characteristics for a product or service and identifying and eliminating all non-value added activities.
- **Giving Value to the Customer** – In lean manufacturing, it is vital to identify what is important to the customer and what they consider as valuable to them. Identifying such, the operations can now focus on adding this value into the products and services, thus aligning the manufacturing process to what the customer demands.
- **Wastes** – In a traditional manufacturing set-up, wastes are objects that were discarded or rejected. In lean manufacturing, what are considered wastes are not only objects but also processes that do not give value to the customer, while incurring cost to the company.
- **Continuous Improvement** – In lean manufacturing, great focus is exerted towards continuous improvement. The whole operation should be open to changes that will improve any manufacturing process. Procedures and steps that are redundant are replaced or improved.
- **Benefits to the Company** – Lean transformations can provide companies with the following improvements and benefits:
 - * Increase in morale and productivity
 - * Reduced defects in products delivered to the customer
 - * Faster delivery time
 - * Faster product marketability
 - * Total customer satisfaction

Lean Transformations in Asian Economies

Emerging Asian economies such as China and other Southeast Asian countries have experienced tremendous growth in recent years and this can be attributed to more efficient and more productive manufacturing industries. Such improvements were achieved after adopting international management techniques and lean transformations in their operations.

In China, tremendous change is occurring in both domestic and multinational companies, which are all focused on increasing productivity and achieving positive results. Workers now participate in kaizen events such as group problem-solving discussions. Lean transformations not only occur in the manufacturing sector but also in other aspects of any business such as in accounting, finance and warehousing. All are now focused on the lean philosophy: everything

begins and ends with the customer.

Both small and multinational firms in Southeast Asia are adopting lean transformations, as the “just-in-time” philosophy allows them to compete on the global market. India's manufacturing and service industries is also slowly adopting lean transformations, with large corporations such as Tata Motors, Wipro and HCL leading the way with the aim of penetrating and operating in the global marketplace.

Making Lean Transformation Work for Your Organization

Despite the tremendous potential of lean principles, not all Asian organizations have successfully implemented and achieved tangible results from their lean transformations. This can be attributed to many aspects but it all boils down to an organization's commitment to change and continuous improvement.

It has also been a norm in traditional Asian organizations to rely on quick fixes and get immediate results. Many tend to abandon a program if they do not experience immediate gratification, thus causing the organization to lose focus on improvement programs such as lean transformation.

Aside from getting the proper tools and methodologies for lean transformation, an organization can also use the following guidelines to make lean principles work for them:

- **Start Small** – Lean transformation may seem like a major and radical change for organizations that are used to the traditional way of operations. Start by making small alterations on the flywheel of change and continuously make small pushes to move forward. Resistance to change in an organization can be addressed by making organizational structure changes or by conducting developmental training programs.
- **Follow Toyota's Cultural Change Model** – The success of lean transformation in a particular organization is based not so much on the organization's knowledge of lean tools but on its willingness to accept change. According to Toyota, there is an estimated 2 to 4 percent in every organization that are willing to accept change, another 2 to 4 percent who resist and impede change, while the rest are just waiting to see what group will prevail over the other.
- **Traditional management focuses more on those who resist change** – In Toyota's Cultural Change Model, management is urged to focus more on those willing to change by providing them with positive reinforcement and providing them with support for lean activities.
- **Learn from Successful Companies** – Lean transformation is also about employing best practices that are applicable to an organization. It is well to learn these best practices from organizations that have challenged their people to continuously improve and implement successful integrated lean principles into their operations – and which have achieved tremendous

tangible results.

- **Plan and Make the Adjustment** – An implementation plan is necessary for lean transformation and this should include and consider all the technical as well as the organizational development elements towards lean implementation. Such a plan should include the following aspects:
 - * **Lay a foundation of knowledge** – teach people the tools, theories and methodologies they need; assign or hire lean experts that will work hands-on throughout the transformation process
 - * **Create teams** – These teams facilitate the teaching and training of organizational and development tools to improve team members' soft skills. Teams also promote communication as well as proper engagement throughout an organization.
 - * **Develop Vision** – The leaders of an organization should use long-range planning tools in strategy deployment sessions to identify 3 to 5 year visions and breakthroughs as well as annual improvement goals
- **Use IT to Enable Lean Transformation** – An organization's CIO should be involved in designing and executing lean transformation. Workflows and process can be streamlined and optimized by integrating IT technologies, eliminating manual processes, minimizing errors and improving efficiency.
- **Take the Lead** – An organization's leaders should take the lead in lean transformation to give it a better chance for success. A change in corporate mindset towards continuous improvement is not something that can be delegated to subordinates, but rather should be embraced by the leaders themselves – thus making good examples of themselves that the rest of the organization will follow. They should take the lead in aligning all organizational activities towards lean transformation goals and they should also constantly communicate these goals and visions to the whole organization on a regular basis. **A-P**

FURTHER READING:

- **iSix Sigma**
www.isixsigma.com
- **McKinsey Quarterly**
www.mckinseyquarterly.com
- **Lean Six Sigma Asia**
www.lean-asia.com

COMPANIES MENTIONED IN THIS ARTICLE:

- **Toyota Motors**
www.toyota.com
- **Tata Motors**
www.tatamotors.com
- **Wipro**
www.wipro.com

S. Korea, China, Japan to Finalize FTA Study before Trilateral Summit in 2012

BY EUN-JUNG KIM

South Korea, China and Japan are to conclude a joint study on the feasibility of a trilateral free trade agreement (FTA) before their three-way summit next year.

The agreement was made by South Korea's Trade Minister Kim Jong-hoon, Japan's Trade Minister Banri Kaieda, and China's Trade Minister Chen Deming during the 8th trade minister summit held in Tokyo on April 24th.

Under the current situation where bilateral FTAs between South Korea and China, as well as South Korea and Japan, are facing setbacks, the joint study on the trilateral FTA that began last year is expected to address current snags.

During the summit, the three nations discussed a three-way investment treaty, but failed to draw up conclusive details, with China taking a lukewarm stance. On the same day, China and Japan were eager to establish a FTA with South Korea, which had already signed an FTA with the European Union and the United States. China urged South Korea to jointly declare a bilateral FTA talk at a trilateral summit slated for May 21st and 22nd.

Meanwhile, Japan requested South Korea to make changes on their decision to regulate imported Japanese agro-products after the outbreak of the Fukushima nuclear power plant accident. However, South Korea strongly opposed it as it is directly concerned with the health of people. The trade ministers of the three countries agreed that their governments should further reinforce information sharing against a possible disaster. **A-P**

It's Boom Time for China's e-Commerce Industry

BY ANURADHA SHUKLA

One of the major industries in China that has experienced tremendous growth in recent years is the e-commerce arena, evolving from its early infancy stage to a more mature and stable industry that will have a significant impact in the country's economy in the near future.

2010 was a significant year for China's e-commerce sector, which saw several changes emerging in this industry that will push further development in the coming years.

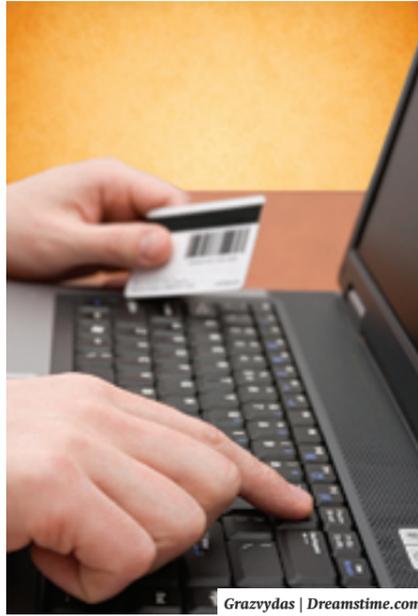
The Chinese online retail market saw the emergence of both local and international players scrambling for a significant piece of the Chinese e-commerce pie. Local enterprises have been very ambitious and aggressive, wanting to push international competition by adopting several measures, from fund raising to successful Initial Public Offerings (IPOs). At the tip of the iceberg are the successful IPOs of online apparel and accessories company Mecox Lane Limited and the online bookstore and general merchandise retailer China Dandang Inc.

Other Business-to-Consumer (B2C) websites also jumped on the bandwagon with 360buy.com and Taobao Mall heading the pack. 360buy.com is on its way to becoming the Chinese equivalent of Amazon.com and is now offering a wide variety of products from books to apparel and general merchandise. The now independent Taobao Mall led a full blast marketing promotion towards the end of 2010, earning for itself record-breaking daily sales of up to 1 billion yuan, or US\$151 million.

The Current State of China's e-Commerce Industry

According to the China e-Business Research Center and the CNZZ Data Center, the volume of e-commerce transactions in the country exceeded the 4.5 trillion RMB mark in 2010. This is equivalent to US\$682 billion and signifies a 22 percent year-on-year growth for the industry. This has been confirmed by similar estimates from industry experts such as iResearch, which placed the Chinese e-commerce industry at an even higher value of 4.8 trillion RMB, or the equivalent of US\$720 billion, in 2010.

The biggest e-commerce sector is online



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Business-to-Business (B2B), accounting for 3.8 trillion RMB or US\$576 billion. Online retail is still high at 513.1 billion RMB (US\$77 billion), which is a 97.3 percent increase from the same period the previous year. According to the CNZZ Data Center, there were over 18,600 e-commerce websites in China towards the end of 2010, 80 percent of which are in the Business-to-Customer sector. Up to 80 percent of China's online shopping activities are coursed through Taobao and online payment gateway Alipay. These two companies are both owned by Alibaba, which boasts over 200 million registered users on its e-commerce site.

Marketing Trends and Strategies in China's e-Commerce Industry

The following provides a brief description of the current trends and strategies used by various e-commerce sites in China that are greatly affecting the global import and export sourcing for the country.

- Online marketing has grown into a viable medium, entering the global information highway that many Chinese e-commerce suppliers are fast adapting to in order to reach wider customer scope and coverage
- The improvements and availability of modes of payments are now getting the attention and acceptance of people in this industry
- Many websites are using splash pages incorporated into their sites. However, many have also incorporated popups, popovers and popunders that are not only irritating for consumers but are actually counterproductive marketing tools in themselves. Several e-commerce businesses are making changes, however, and have recognized the importance of content to attract revenues to their sites.
- Many e-commerce sites have adopted Acrobat PDF for several of their web pages and design. This is one way of

improving the content of these web-sites through secured means, but it may cause some problems with consumers who do not have the proper readers.

- Chinese e-commerce sites make extensive use of html-formatted newsletters to deliver rich media content and communication to their customers. In many cases, newsletters and emails are integrated with audio and video plug-ins as a way of providing better branding for their products and increasing generated revenues.

Traditional media in China has observed a steady downturn in revenues as more and more companies are shifting from traditional means of advertising and marketing and moving towards the allure of online marketing and e-commerce.

Implications of China's Booming e-Commerce Industry

While the e-commerce industry in China is experiencing a tremendous boom that will affect the country's future economy, there are certain implications that will result from all of this, particularly in the areas of marketing and advertising.

As long as the ROI is realized as per expectations, Chinese e-commerce companies will be very aggressive in brand marketing and e-commerce marketing over the internet and may even reach the "unlimited" realm for advertising budget. Groupon in Hong Kong and Alibaba's Taobao in China are already showing the way by hogging the limelight in terms of ad impression spending volume.

Payment facilities and functionalities are being developed that are unique only to China. Unlike in the west where payment facilities use a 'blacklist' system and a penalty system for missed bookings or orders not cancelled ahead of time, Chinese escrow or third-party payment facilities only release the payment after goods or services arrive safely and according to the needs of the consumer. In relation to payment facilities, mobile devices will most likely be used extensively as payment tools through apps or micro-payments coursed through SMS.

Affiliate marketing has been a big business for the e-commerce industry in the United States, and soon this facility will also be made feasible and accepted in the Chinese e-commerce arena. The general distrust for ad exchanges and ad networks in China is changing now, with affiliate marketing now based more on the final sale and purchases, and not on the clicks and leads. This would be a great way for online stores to market remnant inventories through multiple channels.

E-commerce companies in China are now making more extensive use of site measurement tools and other analytics tool to optimize their marketing and advertising campaigns. These include ad tracking tools, web analytic tools, customized bid management tools and now video analytic tools.

Chinese retailers and providers of products and services wanting to jump onto the e-commerce bandwagon will do so, but not through aggregator sites; rather, they will

do so primarily through marketing and going directly to consumers. Search engine marketing and social media will play a major part in this arena, where the middle man is cut out and potential customers are redirected straight to their sites.

Keys to Future Success in China's e-Commerce Industry

While the number of internet users in China is both staggering in terms of numbers and also unprecedented in history, this would all just remain as mere figures for Chinese e-commerce sites unless they were turned into actual online sales. The industry is barely scratching the surface and there is still a tremendous potential, particularly in enticing the millions of Chinese Internet users into buying online.

Several experts and observers, including Francis Peters from the American Consulate General in Shanghai, pointed out many stumbling blocks and considerations which Chinese e-commerce companies should hurdle in order to truly take off and get the most success from their online business. These include:

Chinese buyers are used to conventional shopping. Most want to see and inspect a product up close before committing to any purchase, and the idea of not being able to see a product physically before buying is a risk many consumers would not like to take. This concern is compounded with the proliferation of fake, defective and sub-standard products that will be difficult to return and be replaced.

There are only 50 million credit card

holders out of the 1.1 billion bank cards in circulation in China. Most of these users use their bank cards as debit cards and the so-called credit cards often require funds to be deposited first before they can be used as such. Such lack of convenience makes consumers shy away from buying online, although many have now opted to cash payments on delivery for products seen on the web and transacted via telephone canvassing.

China is a big country with supplies concentrated in the larger cities. This makes it difficult and costly for companies to deliver goods via couriers. The current preferred choice of cash-payment-on-delivery for buyers online complicates the situation even more, particularly in the area of detecting contaminated payments.

Most of China's e-commerce activities occur in the B2B, or Business-to-Business, realm. Although a growing number of B2C or C2C (Consumer-to-Consumer) players are entering the market, the number is still very small for them to dominate the e-commerce scene. Aside from this, small and medium enterprises rely on more established electronic marketplaces such as Alibaba to gain local and international audiences for their products. This can be attributed to the ease of making virtual storefronts through the templates and facilities Alibaba provides. These companies also lack the technical expertise to maintain a virtual storefront of their own.

Unlike Western e-commerce which relies heavily on credit card payments, Chinese counterparts make use of the third-party or

escrow payment providers such as Alipay, Tenpay and Chinapay for transactions. A buyer places funds into the escrow services which the provider will hold and will release as payment only upon confirmation by the buyer. The problem however is the tedious process buyers have to face in enlisting themselves into the system, which may take several trips to the bank and several more days of wait before any application is processed.

The Chinese government is to include e-commerce as a major part of its 12th Five-Year Plan (2011-2015), and it will implement supervisory, intervention and supportive measures to develop regional e-commerce in the near future. The future looks bright for the Chinese e-commerce industry. **A-P**

FURTHER READING:

- ClickZ Asia
www.clickz.asia
- ICEach
www.iceach.com
- ReportLinker
www.reportlinker.com

COMPANIES MENTIONED IN THIS ARTICLE:

- Alipay
www.market.alipay.com
- Taobao Mall
www.tmall.com
- Amazon
www.amazon.com

Household Credit Surge to Harm Korean Economy

BY JI YUN CHOENG

According to the National Statistics Bureau, household credit in South Korea at the end of 2010 totaled 795 trillion won (US\$763 billion), up 60 trillion won from the previous year.

Household credit indicates the sum of loans and credit purchases of domestic households. Notably, the number climbed 26 percent during the last 3 years from 2008, the year the recent global financial crisis took hold.

According to the semi-annual financial stability report released by the Bank of Korea on May 4th, the ratio of household debt to disposable income has risen to 146 percent in 2010, gaining 3 percentage points from a year earlier. The ratio is an indicator of national capability to pay back their debts. This ratio of household debt to disposable income in Korea has constantly risen 5 years in a row: 120 percent in 2005, 120 percent in 2006, 136 percent in 2007, 139 percent in 2008, 143 percent in 2009, and having reached 146 percent in 2010.

The central bank's report underscores the contrast to that of other major economies like the U.S. and U.K. Data shows that in the U.S., which had been the epicenter of the 2008 global financial crisis, the ratio number had been on an upward trend until 2007; whereas it measured 129 percent in 2005, 134 percent in 2006, and 136 percent in 2007, since 2008 it had fallen down to 128 percent and continued to drop in 2009 to 125 percent and down to 120 percent in 2010. In the U.K., the ratio had reached a high water mark of 170 percent in 2007, but in 2008 it dropped to 167 percent, and 160

percent in 2009. Efforts to reduce debt burden in these two economies played a major role in cutting the household debt ratio.

To make matters worse in Korea, inflation has quickened and the pressure to hike the interest rate is increasing. In April, the Bank of Korea revised up its inflation forecast to 3.9 percent from 3.5 percent, and the International Monetary Fund revised its inflation projection for Korea upwards as well. The Bank of Korea is expected to raise the benchmark interest rate in an effort to maintain price stability. In that case, interest rates on mortgage loans are sure to grow as well, since more than 90 percent of total domestic mortgage loans are floating-rate loans and may drive further increase in debt burden for households.

In consequence, the authorities are facing a policy dilemma: high interest rates may curb inflation, but interest payments of households would rise, and low interest rates may encourage more people to borrow. Amid this situation, the Lee Myung-bak administration has come out with countermeasures to deter the potential expanding household default. The Financial Services Commission announced that it would ease mortgage lending to boost the sluggish housing market, trying to hold the nominal value of the secured houses. More specifically, it would ease the Debt-to-Income (DTI) ratio rule, which limits the total amount of mortgage loans in accordance with a person's annual income.

However, employing such measures to sustain the housing prices would quicken the inflation through increased liquidity in the market. Taking those factors into account, the Korean government is now allegedly considering revising down from its initial target of a 5 percent growth rate. President Lee recently declared a war on inflation, which refers to the change in his policy stance from 'growth-oriented' to price stability. **A-P**

Mobile Marketing Trends in Asia

BY ANURADHA SHUKLA

During the past decade, the world has witnessed the tremendous popularity growth and influence of the Internet and other technological innovations such as mobile multimedia devices like smartphones, tablets and other similar high tech gadgets.

Their impact is felt across several industries and in various regions across the globe. This has resulted in a shift in marketing strategies with brands, products and services moving away from the costly but less effective traditional media to the new and highly interactive mobile marketing channels.

There are now more than 4 billion users of mobile phones and other similar Internet-ready mobile devices worldwide. Research indicates that 90 percent of these mobile users readily accept and read SMS messages and other mobile alerts, making mobile marketing a very cost-effective way of reaching out and interacting with potential customers. In many parts of Europe and Asia, companies have started to adapt mobile marketing with SMS advertising as its most popular and responsive branch, with millions of advertisements sent every day.

Reports from industry experts InMobi and Synovate have indicated a growing trend and reception among Asia-Pacific consumers in receiving mobile advertising through SMS messages, text codes and mobile ad networks. With smartphone and tablet shipments accelerating in shipment quantities throughout Asia, spurred by declining gadget prices enjoyed by consumers in various parts of the region such as China, India, Indonesia, Thailand and the Philippines, mobile marketing will definitely enhance revenue streams for Asian companies in 2011 and beyond.

Mobile Marketing Trends in Asia for 2011

According to the MMA, the market is expected to grow by up to US\$14 billion by 2011, with a huge percentage of the revenues coming from the Asia Pacific region. The following describes in brief the top mobile marketing industry predictions in the Asia Pacific region as recently reported by the Mobile Marketing Association (MMA).

- **More personalized mobile marketing messages** – Mobile advertising was previously branded as nothing more than spam on the mobile phone. Companies then

adopted permission-based marketing to overcome this perception and this was reinforced with the standardization of regulations. With increased personalization and privacy, mobile marketing will increase its effectiveness and will continue to grow more credible among consumers.

- **Increased data usage with over-the-top services** – Revenue focus by mobile operators will move from on-deck operator ads to application-based value-added services. Telecom service providers and operators will make a comprehensive review of their existing publishing business investments and will concentrate more on enabling more devices like tablets within their networks.
- **More free communication channels across multiple devices** – There will be an increase in applications that will provide free SMS, free video calls, and free phone calls across multiple mobile device platforms, with mobile video showing the greatest increase in consumption. This free content will be subsidized by ad units shown on partial but interactive parts of the mobile screen.
- **Windows 7 Mobile reborn** – The availability of too many phone variants proved detrimental to the success of Windows 7 Mobile, unlike that experienced by Apple and Research In Motion (RIM), which both focused more on maintaining strict hardware specifications. The re-

birth of Windows 7 mobile will change all that by using stricter hardware requirements and restricting use of the new OS from phones that are not compatible.

- **HTML5 versus Apps** – Apps continue to dominate mobile content and are expected to continue growing in popularity until 2013. With the advent of HTML5 promising great functionalities and opportunities, apps will be facing stiff competition from then on.
- **Integration of Augmented Reality (AR) and Location Based Services (LBS)** – GPS and digital compass capabilities in smartphones and mobile devices allows for the combination of AR and LBS that will allow the overlaying of real-time graphic content related to the current geographical location of the user.
- **Increased use of mobile micro-payments** – Electronic payment will now evolve from the use of ATM cards to the use of electronic wallets that are accessible through their mobile devices, giving users secure purchase opportunities wherever they may go.
- **Mobile Blogging renewed** – The capabilities of smartphones and tablets make them mini-computers in their own right, providing writers and bloggers with a writing platform which they can use to upload content to their websites even while on the go.
- **More browser-capable mobile devices** – Experts predict that 85 percent of mobile devices that will be shipped in 2011 will already have browser capabilities. More users can now view richer content on these devices, making them an effective medium for marketers.
- **Enter Mobile 3D** – 3D technologies have also grown into popularity now that more gadgets are moving towards incorporating these technologies, and these include mobile devices. Although a practical and usable device may not be available this year, there surely will be a lot of experimentation in this area from several providers and operators. **A-P**

FURTHER READING:

- Mobile Marketing Association www.mmaglobal.com
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- iMedia Connection www.imediainconnection.com

COMPANIES MENTIONED IN THIS ARTICLE:

- Apple www.apple.com
- InMobi www.inmobi.com
- Synovate www.synovate.com



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E-Vehicle Push in Asia-Pacific

BY KEVIN LIU

When Chinese Premier Wen Jiabao pledged his country's commitment to save energy and clean up the environment, he not only expressed China's commitment to respond actively to impacts caused by climate change but the whole Asia-Pacific region's commitment as well.

Spearheaded by China's goal to reduce carbon emissions by 40 percent by the year 2020, most developing countries in the region have also expressed their role in saving energy and reducing harmful emissions.

In a bold move, many Asian economies have aggressively made headway into the adoption and mass utilization of various kinds of e-vehicles. Many of these countries have tapped both foreign and local developers and manufacturers to build e-vehicles that are unique to the country's transportation culture. Such strategies are effective in facilitating faster assimilation of e-vehicles into mainstream usage, and with government support could provide a significant impact in reducing the pollution caused by conventional transport systems and reduce these countries' dependency on petroleum

products.

Updates on E-Vehicle Adoption and Use in Asian Countries

The following describes current inroads made in various countries in the Asia-Pacific region with their adoption and use of e-vehicles as a clean alternative for conventional transportation.

- **Philippines** – As one of the most oil-dependent countries in Asia, the Philippines is taking steps to address this ever-growing dependence on fossil fuels as more households, factories and transportation increase in number. Working with the Asian Development Bank (ADB), the Electric Vehicle Alliance of the Philippines (EVAP), and the Congressional Commission on Science and Technology and Engineering (COMSTE), they have collaborated in the deployment of 20,000 electric tricycle units in various locations across the country. This is part of the bigger move by industry players and government agencies to further develop the e-vehicle industry in the country with the development of green transport systems that will include the electric tricycle, hybrid jeepneys, electric buses and electric bicycles.
- **Singapore** – The preferred green vehicles in this country include the hybrids and the Compressed Natural Gas (CNG) vehicles. According to the Singapore Land Transport Authority (LTA), there are more than 2,462 hybrids, 4,473 bi-fuel CNGs and 26 pure CNGs registered in the country. To further improve the number of green vehicle adoption, the country has implemented the Green Vehicle Rebate (GVR) scheme which will
- **Thailand** – Just like any other country in Asia, Thailand is also faced with the problems brought about by rising oil prices, compounded by the resulting pollution from petroleum-based fuels. The government initiated its own e-vehicle policy called E-Co Car, with electric vehicles limited to sizes ranging between 1.32 meters wide and 3.6 meters long. At the forefront of this development is Thailand's Clean Fuel Energy Enterprise Co. Ltd., a company developing and researching equipment and weaponry for the Royal Thai Air Force. The company has now produced several electric powered vehicles powered with batteries which are currently being used in large industrial estates, hotels, resorts, golf courses and other tourists areas vital to the country's economy.
- **India** – The Indian government has recognized the importance of promoting electric vehicles and has mobilized the National Council for Electric Mobility (NCEM) and the National Board for Electric Mobility (NBEM). These agencies will spearhead the development and promotion of hybrid and electric vehicles to reduce the country's dependency on

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Egypt's Orascom Telecom Links North Korea and Egypt to Each Other

BY DONALD KIRK

Egypt and North Korea have long and historical ties. Around the time Hosni Mubarak was taking over, Egypt and North Korea began dealing in missiles – though Egypt was seen by Washington as a “good” Arab state and North Korea, then as now, as the incarnation of evil. Mubarak, when he commanded the Egyptian air force, got North Korea to send pilots to train Egyptians before the fourth Middle East war with Israel in 1973.

Egypt began importing Soviet era Scud-B missiles from North Korea around the time Mubarak became president, and North Korean technicians over the years have taught the Egyptians to produce them on their own.

A routine New Year's greeting from Kim Jong-il to Mubarak testified to the strong relationship formed between Kim Il-sung and Mubarak. The relationship intensified in an era in which the United States and Egypt were also developing close ties after the signing of the Egypt-Israel peace treaty.

Egypt was seen as a firm friend of the United States even as Mubarak visited Pyongyang four times in the 1980s and 1990s in search of military and commercial deals. It was against this background that Orascom Telecom, the biggest mobile phone company in the Middle East and the centerpiece in Egypt's biggest business group, formed Koryolink as a telecommunications joint venture in which Orascom owns 75 per cent of the equity and a North Korean state company has the rest.

“Naguib Sawiris is the biggest foreign investor in North Korea,” said Ha Tae-keung, president of Seoul-based NK Open Radio, which picks up news from North Korea by surreptitious cell phone contacts linked not to Koryolink but to Chinese networks. “He is very sensitive to politics.” In that spirit, Orascom Telecom has provided mobile phone service in troubled countries from Tunisia to Iraq to Pakistan. At the same time, Orascom Construction landed contracts for building U.S. military facilities from Egypt to Afghanistan while keeping close relations with both the U.S. and North Korea.

Mubarak and Kim Jong-il, however, had more in common than strictly business. Like Kim Jong-il, Mubarak was a long-term dictator with visions of passing on power to one of his sons, Gamal. Although Mubarak in the midst of protests said his son would not succeed him, said Ha Tae-keung, “The idea of succession came from Kim Jong-il,” suffering from a stroke that has paralyzed his right arm and madly grooming his youngest son, Kim Jong-eun, to succeed him.

Incredibly, in the face of all the evidence, the strength of U.S. ties to Mubarak during the presidencies of Ronald Reagan and George H.W. Bush was clear in remarks by the former US vice president, Dick Cheney, before Mubarak's fall. “President Mubarak needs to be treated as he has deserved over the years,” said Cheney. “He has been a good friend.” Cheney should have known better. “Cairo is the hub of North Korea's missile exports,” said Choi Jin-wook, who follows North Korean affairs as senior fellow at the Korea Institute of National Unification. North Korea's embassy in Cairo is headquarters for the North's Middle East

military sales network and ranks as the North's “most important embassy” after its embassy in Beijing.

One way or another, Choi believes the deal with Orascom calls for North Korea to pay for the telecom network in hard currency from the sale of missiles and technology to clients including Iran and Syria. North Korea may not run its sales to non-Arab Iran via Cairo, but that's another story. The U.S. from 1979 on was setting up Egypt as the counterpoise to Iran after the fall of the U.S.-backed Shah. Iran in the 1980s was fighting a war with an Arab state, Saddam Hussein's Iraq, a struggle that lasted eight years. North Korea made plenty off that war, selling US\$3 billion in equipment to Iran, including missiles, while embarking on a program in nuclear cooperation.

The paradox of Egypt's relations with North Korea and U.S. relations with Egypt and Israel suggests a riddle that seems to have escaped the notice of U.S. policy-makers, as anxious to preserve “stability” in Egypt as they are on the Korean peninsula. If the enemy of your enemy is your friend, then how did Washington's long favorite friend in the Arab world, namely Egypt, get so cozy with one of America's bitterest enemies, North Korea? And if your friend is providing a base of operations for sales of missiles and other stuff to all your foes in the Middle East, then how come that's your friend?

All of which points to this puzzle: why has the United States, since Jimmy Carter as U.S. president engineered the Camp David accords in 1978 and the Egypt-Israel peace treaty the next year, showered billions of dollars in aid on Egypt while it was double-dealing in North Korean missiles, technology and advice? The answer seems to be that American politicians and diplomats, in a long-running saga of diplomatic incompetence, preferred to downplay if not ignore Egypt's ever-tightening ties to North Korea in the overriding interests of guaranteeing a shaky peace in the Middle East.

One might have thought the debacle of the 1973 invasion of Israel would not have been good for either Egypt or Mubarak's career, but actually it had the opposite effect. So eager was the U.S. to bring about Israeli-Arab reconciliation that Anwar Sadat, as the only Arab leader really ready to go along with recognition of Israel, emerged as a Nobel Prize-winning hero to peace-lovers. Recall that the U.S. at the same time was suffering the disaster of total defeat of U.S.-backed regimes in Vietnam, Cambodia and Laos in 1975, and the sense of loss in America's foreign policy adventures cast a pall over the electorate, bringing about Carter's victory over Gerald Ford the next year.

And then there was Mubarak. Was he in trouble for the defeat of his air force, the embarrassment of the ill-fated fracas of 1973 in which Egypt had sought to recoup the losses of the 1967 war with the Israelis? Not at all. But the story was just beginning. From the outset of his presidency, Mubarak managed to perform a truly magician's trick in diplomacy. Unlike most leaders who seem more or less aligned with one side or the other, or at best adopt a “neutral” position, Mubarak was firmly on the side of the U.S. in the Arab world – and totally on the side of North Korea in Northeast Asia.

All the while, Mubarak was importing

ever more military gear, notably missiles, from North Korea while the North Koreans tutored the Egyptians on how to build their own missiles and other useful items. Egypt was getting far, far more from the U.S., enough to make it the second largest recipient of American largesse after Israel, but Mubarak was grateful enough to have visited North Korea four times from 1983 to 1990. He and Kim Il-sung formed an enduring bond, one that Kim Jong-il enthusiastically maintained after the death of his father in July 1994. The relationship was so close that Mubarak made a solemn pledge to Kim Il-sung; never would Egypt open relations with the North's very worst enemy, South Korea.

Never mind that South Korea was one of the closest military allies of the U.S., was fast recovering from the horrors of the Korean War and was using much of the same type of equipment that the Americans were showering upon the Egyptians. As far as Mubarak was concerned, he was getting so much from North Korea there was no need to think about Washington's relations with Seoul. There is no record of American diplomats ever objecting to this strange convolution of Middle East and Northeast Asian power struggles – or, for that matter, U.S. hypocrisy in treating Mubarak as a great friend.

South Korea by the mid-1990s, however, was already far too powerful a state economically for the Egyptians to go on ignoring. Mubarak did agree in 1995 to form relations with South Korea – but that was well after every country in the eastern bloc

had gone for a two-Korea diplomatic relationship and after South Korea had formed diplomatic relations with China after finally ceasing to recognize the Nationalist Chinese regime on Taiwan as the true China. By 1995, it was pretty hard for any leader, even the duplicitous Egyptian president, to overlook the arrival of all those motor vehicles, electronic gimmicks and much else arriving from South Korea on South Korean super-sized cargo ships, many of them passing right through his own Suez Canal to markets in Europe.

The Egyptian-North Korean relationship, though, was still blossoming. The military business has had its ups and downs, varying with the needs and finances of Arab clients, but Egypt remains the largest foreign investor in North Korea thanks to the deal engineered by the Orascom group to provide North Korea with its one and only mobile phone network and also to build a whole lot of structures that Kim Jong-il badly wants by the time of the centennial in 2012 of the birth of Kim Il-sung.

Since Orascom set up Koryolink in 2008, more than 300,000 North Koreans, from an upper layer of Workers' Party members, military officers and government bureaucrats, have cell phones. It's not possible to place calls outside North Korea via Koryolink, but the transition to basic electronic communications represent a quantum leap for a system that's as backward as it is repressive.

Just to show the importance attached to this Orascom project, North Korea had not reported on a foreign tycoon in Pyongyang in recent memory as was done during

Naguib Sawiris's visit in January. Visits by two South Korean presidents, Kim Dae-jung in June 2000 and Roh Moo-Hyun in October 2007, don't count. Nor do visits by top South Korean executives from the Hyundai empire, responsible for building the Mount Kumgang tourist zone above the North-South line on the east coast and then an economic complex at Kaesong, next to the “truce village” of Panmunjom about 40 miles north of Seoul. Those relationships were all between Koreans, and Koreans like to say they're citizens of “one nation.”

Now it seems Orascom is serving much the same purpose as the Hyundai subsidiary whose chief executive committed suicide in 2003 amid charges that his company had funneled hundreds of millions of dollars into North Korea to promote the sunshine policy of Kim Dae-jung. As Pyongyang's Korean Central News Agency noted, Orascom's investment in Koryolink coincided with “successful progress in different fields.” The KCNA report cited “telecommunication,” but the relationship is far more extensive.

We have Pyongyang's Korean Central News Agency to thank for the summary report of the “success” of Orascom in multiple deals – though KCNA did not report on Orascom Construction's project to turn the Hotel Ryugyong from a monumental failure on the Pyongyang skyline into a showpiece of success. Nor, for that matter, did KCNA say a word about protests in Cairo – not something North Koreans needed to know about while struggling to stay alive in the harshest winter in years. **A-P**

China to Overtake US in Gaming Market

BY ANURADHA SHUKLA

The video game industry is definitely a lucrative market and earns massive revenues each year.

To put this into perspective, its US\$77 billion revenue in 2009 rivaled that of Hollywood, which was valued at \$85 billion. This revenue total includes gaming consoles, PC game applications and online games. The United States has dominated this industry for several years, but according to industry experts, this hold on the top spot will soon be relinquished – to China.

A recent research conducted by Digi-Capital indicated that if current trends in the gaming market continue in the next decade, China will eventually overtake the US to dominate the gaming market by the year 2014. What is the reason of this power shift in the gaming industry? The answer to this question can all be summarized in two words – online and mobile.

The popularity of smartphones and other mobile and internet-ready devices such as tablets has given rise to the popularity of online and mobile games as well. Gamers are slowly changing focus, moving away from the more expensive console or PC-based gaming applications to the trendy and now more popular online games. China has a gaming industry that is mostly based online and as it moves to dominate the online market, it will soon dominate the global gaming market as well.

The Decline of the Console and the Rise of Online Games

Digi-Capital predicted that the growth of the gaming console market will stagnate and eventually decline in the coming years. Right now, major console vendors are investing heavily in game development just to survive. Added to this is the mar-



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keting cost which will jack up overall development investments significantly, requiring vendors to sell over a million units just to break even.

The decline of the console is brought about by the tremendous popularity of online games and social networks. Zynga, a video game developer focused on developing gaming applications for social networks, is raking in billions of dollars in revenue from their popular games. Their winning formula? Developers like Zynga have integrated

advertisements within their game panels. On top of that, the successful micro-currency systems that were introduced enticed people to play more games, purchase accessories or increase their “powers” by charging them minimum amounts – but with millions availing, this translates into significant revenues.

China Rising to the Top

China currently holds 12 percent of the total global games market revenues, but as more and more Chinese companies leverage their domestic prowess and enter the international market, the country is set to grab up to 50 percent of total global revenues by the year 2014. In contrast, the US share of the total global gaming revenue for the same period is projected to decrease from 26 percent

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New Intangible Cultural Heritage Laws to Protect and Preserve China's Vast and Diverse Culture

BY VINTI VAID

In past decades, as instances of Chinese cultural heritage leaving its shores increased at an alarming rate, so too did the growing concern amongst academicians about this.

The Chinese government saw that it needed to act quickly and effectively to reduce or halt this trend. Hence, after prolonged reviews of existing cultural rules, new stringent guidelines have come into effect. These are applicable to on-site survey and on-site data collection by overseas surveyors. These laws, called Intangible Cultural Heritage, will come into effect from June 1st, 2011.

A lack of well-defined guidelines and protection laws had led to a steady and prolonged flight of the nation's cultural treasures overseas. Some local organizations and individuals had even found several legal loopholes to utilize existing rules to acquire such heritage objects for their private ownership.

The intangible assets migration from China is usually in the form of video tapes, photographs as well as direct purchases made from naive natives and tribal groups. The most noted of such transgressions have occurred in the Miao ethnic cultural centre in Taijiang County in the southwest region of Guizhou province. Several young locals engaged by foreign researchers to access Miao community helped them videotape the whole process of producing their indigenous clothing. This is truly objectionable as the entire process is equivalent to a patent process, and recording it for private use is a violation of mutual cultural exchange norms that exist between countries.

Similar instances of transgressions seem to have occurred at fishing communities in the Hezhe ethnic group at Heilongjiang province, in the Dongba culture of the

Naxi ethnic group in the province of Yunnan. In fact, unsuspecting and naive native Qiang people of the mountainous regions of Wenchuan county of the Sichuan province have on several occasions revealed in detail the endangered and well-protected Shibi culture to curious overseas surveyors, collectors, etc. Shibi is a very important part of their ethnicity and is uniquely synonymous with the ethnic community of this region.

Most ethnic communities are sometimes unaware of the degree of transgression taking place when their intangible cultural assets are videotaped or collected as sample pieces. The new cultural heritage law attempts to set certain parameters to the type of data collection done. This will truly protect the knowledge and originality of the ethnic communities by defining precise processes of survey and collection of data to be followed during the research process.

Researchers have found substantial results that prove fundamental interests and rights of ethnic Chinese are closely bound to the rich cultural heritage of China. Hence, it is very vital to protect cultural assets of these remote communities and ethnic groups. Ethnic community legal aid experts believe that survey and data collection is part of the global scenario for learning about older cultures and is a necessary part of creating global awareness of Chinese greatness. However, the threat is in not being able to protect indigenous knowledge, culture and ethnicity. Other legal experts also opine that intangible cultural heritage is important culturally and of high economic value as well. Methods of production and manufacture processes are sometimes of very high indigenous value and are geographically specific. Therefore, allowing open global access to such processes needs to come under legally sanctioned restriction.

Exploring what are Intangible Cultural Heritage Assets

The Chinese government defines all intangible forms of cultural heritage such as dances, performances, story-telling forms, (including puppet styles unique to a region

as in Pingyang of Zhejiang province), etc., as coming under the umbrella of its new ICH laws.

An excellent example of Intangible Cultural heritage would be the sedan chair lifting practice of Qinyang City, in Central China. It is a very famous and spectacular event that is listed as one of the Intangible Cultural assets of China, and it is exciting and enthralling to witness. Professional sedan chair lifters perform a host of dances using the sedan chair which are unique to the cultural practices of the region.

Oral literature and traditional art forms, from painting, sculpture, and distinctive pottery styles to theater forms are also part of the intangible forms of cultural heritage. Among the several painting forms, all types of painting from etching to ethnic practices (distinctive to the region where they are practised) also come under the purview of these new laws. Additionally, sport activities and festivals that China is famous for are also excluded to surveying without prior written permission, and foreigners require a local Chinese art organization to accompany them during their documentation or research process.

The evolution of ICH laws

The first draft law on the Protection of Intangible Assets fundamentally addressed the issue of surveys conducted by overseas organizations. It proposed that without the compulsory accompaniment of a local representative, surveys into any part of Chinese cultural heritage could not be conducted. Further, the local representative must be from a Chinese cultural regulatory agency, and written authorization from the provincial authorities or regional authorities will be mandatory.

The draft law further proposed that individual surveyors who are non-Chinese first have to report at the government level at the national capital on the proposed plans of survey they intend to perform. Only after granting of permission can the individual or organization commence the survey work. With the third reading of the draft before

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The Rapid Growth of Korea's Outdoor Sportswear Industry

BY NICOLAS LEE

Although there has been steady growth of the outdoor sportswear industry for over a decade, last year was a major leap for outdoor sportswear brands in Korea.

The so-called 'Big 5' brands reaped a total net revenue of 1.7 trillion won (US\$15 billion), including the market leader North Face earning 530 billion won (US\$490 million), followed by Kolon Sport and K2, at 420 billion won (US\$388 million) each. Compared to 2009, the average growth rate was increased by 10 to 50 percent with an incredible 100 percent increase of a certain brand. What is more interesting is that the boom of the outdoor sportswear brands isn't a bubble, but rather a long-term expansion. Therefore, it is critical to be aware of the reasons for the increased popularity of the outdoor fashion brands, and the prospects for the market.

Recent studies on Korean consumer behavior show that consumers tend to be both brand-savvy and price conscious when making apparel purchases. They generally pay close attention to the country-of-origin when evaluating quality and making purchasing decisions on apparel products. After going through a stage of mass consumption of "ordinary" apparel, consumers are nowadays increasingly developing diverse tastes, yet at the same time searching for reasonable prices for their fashion. In short, this differentiation need, based on homogeneity and hierarchy, drives much consumption of apparel in Korea. Outdoor sportswear brands were shown to satisfy both of these needs for many consumers.

There are three general reasons for the increased demand for outdoor clothing brands, with the first being the increased population that enjoys outdoor activities. Just a few years ago, people were merely



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interested in mountain climbing or biking. There used to be a strict division between people who enjoyed those activities and those who did not. However, with the increased interest in their well-being, a lot more people joined this trend, blurring such division. Sporting activities were suddenly not just for men, but for all.

Also, the recent trend drove people to wear outdoor apparel anytime, anywhere. For instance, the North Face jackets and windbreakers are the top favorite outerwear for numerous Korean teens across the country. And it's not just with teenagers either. More and more people in a wide range of different age groups wear these outerwear to work and school. This trend has been accelerated with celebrities appearing on television shows in the outdoor brands' clothes more often than ever before.

Lastly, most of the outdoor brands that enjoyed such advantageous fashion trends hired celebrity models and undertook aggressive marketing strategies. This is a distinct change from hiring professional mountain climbers and foreign models. Such changes inside the industry attracted

more consumers and contributed to the dramatic growth of the brands.

In this prospective atmosphere, many companies are launching new outdoor brands. Last year, FILA Sport and Wild Roses were newly launched, and currently, Korean brand Codes Combine is gearing for their turn in 2011, with the Haiker Brand. In the midst of this, many companies are likely to fiercely compete for their share in this market, trying to attract a wider group of people. In terms of promotion, they are engaged in more aggressive marketing tactics such as hiring more popular models and buying more airtime. Also, many of them are coming up with new products to further satisfy consumers.

Likewise, outdoor fashion brands have bigger potential markets and opportunities that can attract a larger population. It will be up to them to take advantage of such favorable conditions and expand their value in the industry. For the rest of us, it will be interesting to pay attention to the outdoor sportswear brands' growth and their increasing status compared to the conventional fashion industry. **A-P**

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fossil fuels, 75 percent of which are currently coming from foreign resources. Many car manufacturers in India will heed this call and produce their own electric vehicle versions, with the Reva Electric Car Company taking the pioneering lead.

The take-off of electric vehicles in Asia has been delayed in the past due to lack of infrastructure and affordable electric vehicle models. However, the growing need for energy dependency brought about by

rising oil prices and the alarming effects of global warming has prompted governments to pursue the adoption of electric vehicles – towards a cleaner and better environment for the future. **A-P**

FURTHER READING:

- Bloomberg Businessweek
www.businessweek.com
- HighBeam Research
www.highbeam.com
- Rediff Business

www.business.rediff.com

COMPANIES MENTIONED IN THIS ARTICLE:

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- Reva Electric Car Company
www.revaindia.com
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Photos by Jin-Suk Yang

Collaboration of Tradition and Modernity: Seoul, Jongno District

BY JIN-SUK YANG

Seoul, the dynamic capital city of South Korea, has a history of more than 600 years dating back to 1394 when the Joseon dynasty rulers decided to relocate the capital here.

Originally named Hanyang, the city gradually became the nation's center of politics, economy and culture. And with the passage of time, the Jongno district emerged as the capital's center. Today, this bustling area of modern-day Seoul not only carries a huge historical significance but also symbolizes the center of Korean cultural tourism.

Royal Palaces of Joseon Dynasty

Jongno district is known as Korea's cultural repository. It is estimated that more than 80 percent of all foreign tourists who visit Korea visit the area. One reason for

this is that four of the five major historical palaces from the Joseon dynasty are still located within its boundaries.

Changdeok palace, which stands as the most beloved palace from the Joseon era, represents the Korean cultural history of glory and pain. The palace is famous for its beauty of perfect harmony and is the most well-preserved from its original structure and condition among the five existing palaces. It was for these reasons that Changdeok palace was designated by UNESCO as a World Cultural Heritage site.

Gyeongbok palace, the main royal palace of the Joseon dynasty, was completed in 1395. The government ministry districts and main buildings of Geongbok palace formed the heart of the capital city of Seoul and represented the sovereignty of the Joseon reign. Even though a major part of the palace was razed by the Japanese during the colonial occupation period, many successful efforts have been made to restore Gyeongbok palace to its original state.

Changgyeong palace was the third palace compound built during the Joseon era. It served primarily as a residence and thus

At the heart of the Jongno district flows Cheonggye Stream. Its origins date back to the Joseon dynasty when the stream was first constructed as a drainage system.



this compound is the subject of many stories about the life of royal family members.

The fourth Jongno palace was also constructed as an imperial residence of royal family members. Named Deoksu palace, it is famous for its mixture of Korean traditional and Western styles of architecture. Within its compound walls, visitors can view the Joseon dynasty structural heritage while strolling amongst Korea's first Western-style garden.

Other Cultural Heritage Sites of Joseon Dynasty

Apart from the major palaces and gates, more than 300 cultural heritages sites are located with the Jongno district.

As with other traditional Asian cultures, Korea also considers rites and rituals as highly important, in that they serve to act as mechanisms of maintaining basic social order. And the most significant of these forms of rites are found in Jongmyo and Sajik Shrines, which are both located in the Jongno District.

At Jongmyo Shrine, memorial services were once performed for deceased kings, while Sajik Shrine served as a place of ritual dedicated to the Gods of Earth and Crops. Due to its historical significance, not only Jongmyo Shrine itself but also the memorial ceremony and its music were given UNESCO World Heritage distinction in 1995.

Within the Jongno district also lies Tapgol Park, formerly known as Pagoda Park. The park has a long history dating back to the Joseon dynasty when it was created as the foundation of Wongak Temple. Within the park, visitors can still see a twelve meter high pagoda along with a large turtle-shaped monument. The pagoda was designated as the second national treasure of Korea, due to the fact that it is one of the few remaining pagodas from the Joseon period, and is considered by art historians to be one of the finest examples of art from that period.

In the early 1900s Tapgol Park played an important role in the Korean independence movement. It was there that the March 1st movement was ignited and it was the first location for the reading of the Declaration of Independence. These days Tapgol Park remains a popular place for various types of social demonstrations.

Natural Tourist Attractions

One of the main reasons behind the original relocation of the capital to Hanyang (Seoul) was that this area provided a natural fortress of physical barriers for defense. To every side of Seoul are mountains which



are still partially connected by the fortress wall that once encircled Seoul; Inwangsan Mountain to the west, Naksan Mountain to the east, Namsan Mountain to the south and Bugaksan Mountain to the north. Currently Jongno District is running a tourism program called 'Seoul Fortress Stamp tour', in which people can walk along the Seoul Fortress wall passing the four mountains mentioned as well as the four major gates of Seoul for a total distance estimated to be 18.7 kilometers long.

At the heart of the Jongno district flows Cheonggye Stream. Its origins date back to the Joseon dynasty when the stream was first constructed as a drainage system. Throughout its history, it had also provided a place for people to relax, until it was eventually covered up with concrete for reasons of industrialization and modernization. However, in recent years there has been a

major investment related to restoration not only of the stream itself but also the history and the culture of the surrounding area. As a result, Cheonggye Stream has now become a modern public recreation space for Seoul citizens. Recently it has become so popular with foreign tourists that some even visit Korea only to see its waters flowing in their splendor. It is now considered by people across the world as a one of a kind stream.

Today's Financial and Cultural Center

While walking along the Jongno district, one can also come across various prominent financial and cultural sites. The Seoul Finance Center is located here, and it attracts business and financial experts from all over the world. The Jongno district also happens to have Korea's largest bookshops



which include Kyobo and Youngpoong bookstores. There is also Insadong, Korea's most famous cultural street, where tourists are attracted by its traditional surroundings that include galleries, souvenir shops and restaurants. At the very end of the Jongno district lies one of Asia's biggest retail markets called Dongdaemun (East Gate) market. Traders from faraway places such as Moscow, Delhi, Lahore, Bangkok, and Tokyo can often be seen visiting the market to buy merchandise at bargain prices.

Modern Attractions

One of the most popular areas for fash-

ion and sight-seeing to both young people and tourist is Myeongdong. This locale contains a myriad of retail stores and varieties of international flagship stores, as well as major department stores including Lotte, Shinsegae and Migliore.

One of the most popular areas for enjoying views of Seoul's skyline is atop Namsan Mountain. Situated to the South of Jongno district as part of the Seoul Fortress, Namsan Mountain offers visitors panoramic views from the tower located on its peak, and it also offers various recreation activities, including hiking, public parks, a botanical garden and a cable car tour.

Just as Tiananmen Square symbolizes

China and Red Square symbolizes Russia, Korea too has Gwanghwamun Square. Also located in Jongno District, this square contains direct historical symbols in that its 130 meter length acts as a symbolic axis connecting the heart of Seoul from Bukhansan Mountain to Gyeongbok palace, then to the regal General Lee Soon-shin statue and on to the other major districts of Seoul. Gwanghwamun Square was recently reconstructed by modernizing its design, while adding the King Sejong Memorial and an underground museum in its locality.

Indeed, the Jongno district in Seoul can be considered the heart and soul of Korean cultural heritage. A-P

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the bimonthly session, it is now required for regulators to accompany individual surveyors too.

Will these Laws Affect Future Research in Chinese Culture?

One implication of the adoption of these laws is that Chinese cultural heritage will become further inaccessible to the common global citizen. Research organizations will have to depend to a larger extent on Chinese research work. This may run the risk of not being impartial in the nature of the research findings. Additionally, the survey methodology may not necessarily conform to international methods, and therein might lay the fallacy of the survey results. Protecting cultural heritage is essential. However, the core of the issue is that the entire process of survey and rediscovering the depths of Chinese cultural heritage should not be affected by restrictive, time-consuming paperwork.

The ICH laws also incorporate a mechanism whereby the cultural authorities should compulsorily offer representative heirs of these ethnic communities for both

the funds as well as the platform to pass on their skills/knowledge. In terms of compensation, a sum of 10,000 yuan maximum is to be allotted by the central budget to continue with the transfer of knowledge through ICH.

As a strong deterrent to the loss of indigenous content and valuable assets from cultural heritage sites, the government proposes to impose fines varying from 100,000 yuan to 500,000 yuan if individuals or organizations default on any of the guidelines proposed by the government.

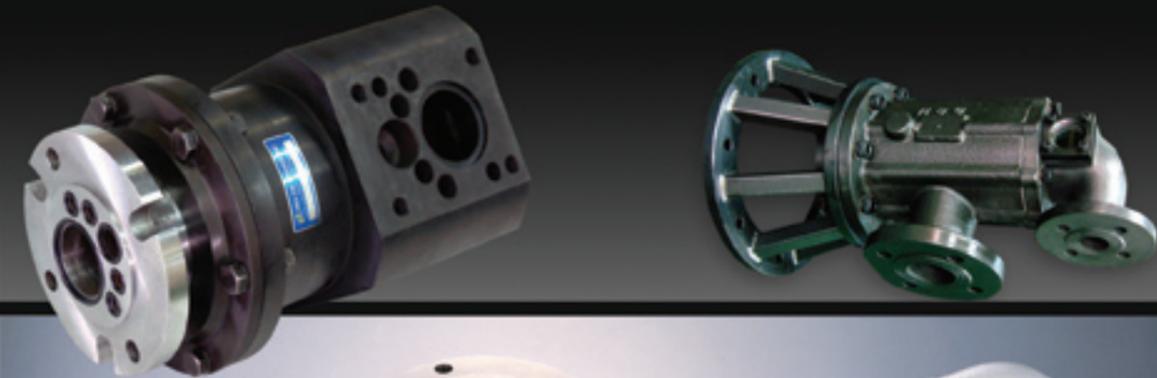
Globally, governments have a variety of laws for survey and collection of cultural heritage for effective protection of this heritage. A recent development towards this end has been the patenting of cultural heritage. Location-specific practices are given unique status, which operates on the same basis as trademarks. This allows indigenous technology based on cultural practices as in textile production etc., from being patented by unscrupulous users of the products. UNESCO has several guidelines for obligatory surveying and cultural protection and Chinese laws should comply with these to receive the same degree of cultural protec-

tion. The Chinese Government likely needs to look more closely at alternative forms, in addition to legal frameworks, to prevent unauthorized usage of content and objects collected at cultural heritage surveys.

Again, ethnic law organizations in the country need to work hand-in-hand with the government. As a first step, identifying and cataloguing various aspects of Intangible Cultural Assets is vital. This will prevent the loss of such precious data, which will otherwise be well documented if any loss is due to natural calamities. This would involve a very ambitious and almost encyclopaedic scope of nature of work, but it will certainly contribute towards protecting China's rich cultural past. Towards this end, the government has released data which states that, at present, there are 1,028 state level Intangible Cultural Heritage subjects and close to one thousand five hundred heirs representing those subjects at their respective state levels. Even a conservative estimate of China's Intangible Cultural Heritage stands at a staggering 8,700,000 items, and these will no doubt remain the pride of the country. A-P

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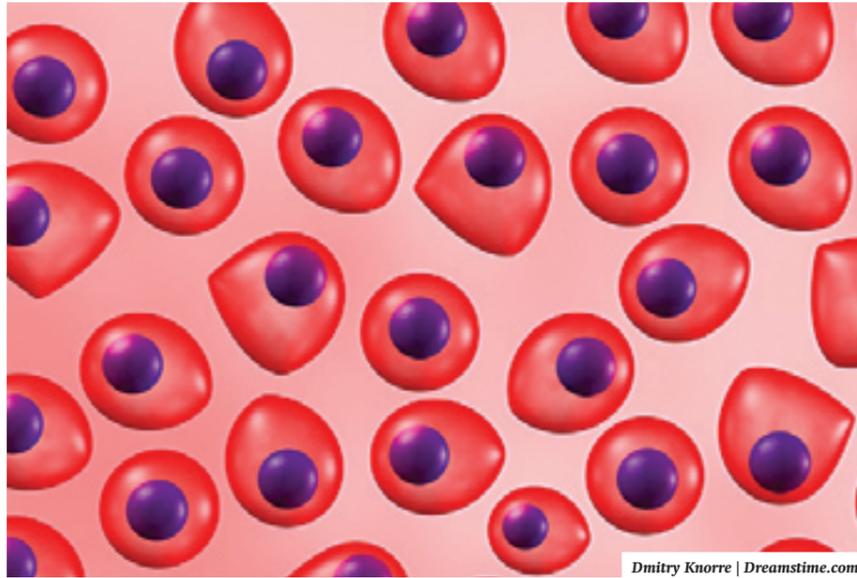
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336-29, Doksan 1-dong, Kumcheon-ku,
Seoul, Korea
Phone : 82-2-864-2591 Fax : 82-2-864-2594
E-mail : multishydro@hanmail.net



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Stem Cell Research in Asia: Successes and Issues

BY SHAMILA JANAKIRAMAN

Stem cells are specialized cells found in certain parts of the body such as the umbilical cord, bone marrow, embryo and teeth, that can develop into any other cell in the body.

Stem cell research is unveiling a new era in medical technology to enhance healing of the human body. Stem cell biology can help treat tissue/organ injuries, cardiovascular disease, neurological disease, musculoskeletal disease, diabetes and hematopoietic disorders and more recently in cosmetology. With further advancements in technology of this research field, a lung malfunction, an atrophied heart muscle, or kidney problem can be treated successfully.

The human body is made of cells which have genes that carry the genetic code that gives a human being characteristics such as complexion, voice, color of hair and eyes, etc. Cells or tissues can be grown from genetic material of a single person into various other cells to treat most diseases.

Scientists may be able to create brain cells and nerve cells to tackle conditions like Alzheimer's disease or Parkinson's disease. But research in the field involves huge sums of money and requires government support.

Stem cells are essentially special cells which have the capability to self-renew and form other cells under certain conditions. These are either embryonic stem cells taken from a four- or five-day old human embryo, or adult cells like cord blood stem cells or cells isolated from bone marrow.

The adult stem cells can regenerate and maintain the cell population by replacing worn-out cells, or they can be used to re-

pair tissues or organs, but they are location-specific. For example, stem cells taken from bone marrow can produce only blood cells and can be used to treat blood-related disorders and not other maladies.

Embryonic stem cells are undifferentiated and can develop into any adult cell, but therein lies the problem of guiding embryonic stem cells to differentiate into the desired tissue in a controlled manner.

"The biggest risk that embryonic stem cell treatment poses as a result is that of teratomas - tumors - and antigen-antibody reactions," said Dr. Satish Totey, of Stem Cell Research Forum of India at the Manipal Institute for Stem Cells and Regenerative Medicine.

Stem cell division and differentiation in an extra cellular environment is controlled and subjected to a specific configuration so that they can be used for therapeutic purposes. Differentiation involves unspecialized cells developing to become specialized cells with restricted developmental potential.

Several Asian countries like Japan, Singapore, South Korea and India are enthusiastic about stem cell research. Pharmaceutical companies are striving to develop treatments for illnesses. The science of stem-cell research has to be used to drive commercial prospects ethically under proper guidance and regulations, otherwise business and science will both suffer, opine experts.

Stem Cell Research in India

India is enjoying huge governmental support in this field, and private firms are receiving heavy funding for conducting stem cell research in various specific applications like regeneration of the eye cornea, burnt skin, kidney treatment or even rectifying hair loss.

The Indian government promotes basic and applied stem cell research and lays emphasis on diseases that are prevalent in India rather than on exotic diseases. Efforts

are being made towards understanding stem cell fundamentals and conducting clinical trials to check on their effectiveness. The National Centre for Biological Sciences (NCBS) in Bangalore is doing the fundamental work by developing Planaria and Hydra as simple model systems which will help derive principles to be applied in complex systems through InStem.

InStem at NCBS is supported in research activities by the All India Institute of Medical Sciences (AIIMS), the L.V. Prasad Eye Institute, Center for Stem Cell Research at CMC Vellore and the National Centre for Cell Sciences (NCCS) at Pune University. Focusing on the application area of the research, these institutes cover medical areas like regeneration of damaged muscles due to heart attack or stroke and cornea damage.

They are also focused on locating sources of stem cells, arriving at effective therapies, applying stem cell therapy and verifying if the procedure can be practically delivered to cure patients. Research has helped doctors of NCCS find that the female genital tract (endometrium) is a rich source of stem cells, and they are working on the possibility of generating blood flow for a fetus, for which bone marrow cells are being used now. Stem cells are also being used to grow capillaries in patients who need alternate blood vessels for by-pass operations in Indian hospitals.

LV Prasad Eye Institute, a Hyderabad-based eye-care and research institute, uses adult stem cells in the treatment of human eye diseases via a technique that harvests limbal stem cells to fight sight deficiency caused by the inability of the eye to repair the cornea.

The National Center for Cell Science and the Ruby Hall Medical Research Center, based in Pune, the Indian Institute of Science in Bangalore, the Asian Heart Institute and Research Center and the Maulana Azad Medical College all use both adult and embryonic stem cells and other sources like bone marrow, peripheral blood and umbilical cord blood cells to tackle previously incurable diseases.

Scientists of Sankara Nethralaya, a reputed eye hospital in Chennai, India, and Nichi-In Biosciences (private) Ltd. of Japan have tested scaffold-less stem cell transplant in the eye on rabbits. Mebiol gel, a synthetic thermo-reversible gel manufactured by a Japanese firm which liquefies when cooled, was used as a scaffold to grow rabbits' corneal stem cells, which will help treat humans.

Further, researchers at Sankara Nethralaya and scientists at the Central Leather Research Institute have developed a protein from fish scales and sheep fur that can be used as a scaffold for stem cell growth and therapy to prevent blindness. Chemical or fire injuries, long term use of contact lens or even allergic reactions can lead to depletion of limbal stem cells which then leads to impaired vision.

Like blood, stem cells also have to be stored in optimum conditions. This service is being provided by companies like Reliance Life Sciences and Lifecell, which store stem cells derived from umbilical cords, while Stemade stores cells obtained from milk-teeth of children.

Highlighting ethical concerns and side-

effects of stem cell usage, researchers feel that although experimentation is good, a regulatory framework is mandatory. Whereas some countries have negative feelings towards stem cell research, India feels that it cannot be considered unethical as it cures humans of diseases and prevents suffering. "India's population is growing rapidly and so are disease conditions. Soon India will have the world's largest population of diabetic patients and heart patients, and Parkinson's disease is also increasing rapidly. Stem cell research emerges as a necessity then for the country," said Dr. Satish Totey.

The capabilities of Indian pharmaceutical and biotechnological companies, availability of scientific talent, an advanced information technology industry and genetically diverse population serve as plus points for promotion of research and clinical applications in India.

Singapore Scenario

Alan Colman, an English biochemist and a leader of the British team that created Dolly the sheep, the first cloned mammal, landed recently in Singapore to leverage the permissive policies of the government, which has set up a center of excellence in stem cell research with adequate funding. Biopolis, a 2 million-square-foot complex of laboratories and offices housing startups engaged in research on stem cells and other cutting-edge life-sciences has been set up by the Singapore government with heavy funding assistance to develop its biotech industry.

ES Cell International in Biopolis has developed stem cells from embryos to arrive at treatments for diabetes. The research involves embryonic stem cells that are yet to be assigned specific roles in the body and hence can be differentiated to treat certain diseases.

Biotechnology is a fast-developing field in Australia, China, India, Japan, and South Korea, both as a revenue-churning source as well as a service to mankind. Robert A. Goldstein, Chief Scientific Officer at the New York-based Juvenile Diabetes Research Foundation International, lauds the progress Asians have made in this field. His institute is working with ES Cell to find a cure for diabetes.

The National University of Singapore and Stem Cell Technologies i (SCTi) are conducting specific research into adult stem cells for arriving at a cell replacement therapy for diabetes. SCTi focuses on Ad-MSCs and its applications in regenerative medicine using fat cells, muscle cells, insulin-secreting cells, hepatocytes and cancer biology.

Adipose-derived mesenchymal stem cells, or Ad-MSCs, can treat chronic diseases such as diabetes and its complications (diabetic ulcers), myocardial infarction and heart failure, stroke, arthritis, osteoporosis, Parkinson's disease and spinal cord injury, among others.

To treat leukemia or blood cancer, stem cells from the umbilical cord of a mother taken during child birth can be used. They are collected immediately after birth and stored in freezers by companies like Singapore-based Cordlife, which operate cord blood banks in Hong Kong.

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Breast Cancer Setting in Early amongst Chinese Women

BY PRIYANKA SHARMA

Epidemiological studies have often proved that breast cancer instances are predominant amongst Caucasian women (read American white women).

The occurrence of breast cancer in terms of race is less than 20 percent amongst Asian women and approximately 18.7 percent amongst ethnic Chinese womenfolk. Despite this heartening fact, the cause for alarm amongst the younger generation of Chinese women is that the greater incidence age is reaching lower thresholds.

While most Caucasian women are known to show incidence of malignancy in the breast most commonly during the early to late 50s, a recent trend has shown that Chinese women in the 40s age group are showing greater rate of incidence.

Cancer Foundation of Chinese Studies

Cancer studies in the last few years indicate that this trend is consistent and is likely increase in the years to follow. A survey was done by the Cancer Foundation of China on an average sample group of 4,200 patients in mainland China in the decade between 1999 and 2008. The study found that out of the 4,200 women patients nearly 40 percent of those who showed signs of breast cancer belonged to the age group of 40 years to 49 years. This revealed that the average cancer-positive patient in China was a decade younger than Caucasian women who too suffered from cancer.

This increase, when focusing on the given age group of 40 to 49 years, shows that the onset of cancerous cells or malignancy increases just before menopause. Researchers are now exploring the frontiers of oncology to identify if there exists a relation between the factors of menopause or if it may be due to socio-economic reasons and perhaps largely a result of the pressures of life styles.

Early Detection is the Key

Perhaps the most significant part of the study is that the increase in cancer incidence was almost entirely in the metro regions. The rural areas showed no alarming changes in the rate of breast cancer occur-

rence. However, there may have been technical limitations of the sample of people studied, which could have had a significant influence on the results.

Another significant point that the survey highlighted was that there was an unprecedented increase in the cancer mortality rate in China, whereas the West has been witnessing a decline in the mortality rate ever since the 1990s.

Experts attribute their advanced expertise to their greater skills at early detection of cancer onset. Western countries had been able to approach near-perfection of cancer detection tests as early as the 1960s. The study/survey and its results only scratch the surface of the spread of tumours, however. The key for Chinese women and the local medical community is to find the right tests and detection processes that will offer infected women to opt for corrective therapy and arrest the spread.

First Option is Removal of Malignancy for Chinese women

China currently has one of the highest rates of breast removal to combat the spread and malignancy of cancerous growth. There are negligible instances of Chinese women opting to for breast-saving therapy as compared to Caucasian women who prefer to save the breast as a part of the therapy itself.

Developed countries have opted for breast-saving as well as radical operation options for several years now. Fifty percent of US patients opt for retaining the breast, while the percentage could reach as high as eighty percent amongst Singaporean women.

Most Chinese women chose the breast-losing option over the breast saving-option, predominantly because they are unable to afford and plan for chemotherapy post-breast-saving therapy.

The main reason that traditional breast removal surgeries came into precedence was in the belief that the lymph nodes that become malignant and cause the cancer, if removed entirely, would ensure that the chances of recurrence of malignancy were nullified.

However, recent studies have proven that sentinel node biopsy, or the removal of the main growth along with a few teritiaries, has almost the same growth development when observed over five-year periods. Patients with removal of the entire lymph node fared the same as those who had only

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Emotion ICT Industry and Korea

BY EUN YOUNG CHOUGH

The renowned American futurist and inventor, Ray Kurzweil, said artificial intelligence of devices or machines will match the human-level by the year 2029.

When looking into the developments of Information Communication Technology (ICT), particularly the Emotion ICT industry, it seems possible that the current ICT industry may be making its move towards Kurzweil's forecast.

The Emotion ICT industry refers to the fusion between two technologies: namely, technology that stimulates emotion such as touch screens and tactile sensing, and technology that recognizes or processes human emotion by measuring biometrics such as brain waves and pulse waves. According to the Korea-based Emotion ICT Association, the Emotion ICT industry is expanding rapidly, the field of mobile phones being at the core of this growth. Based on the group's report, the worldwide Emotion ICT industry market will show a yearly 118.2 percent growth rate, from 2011's US\$148.6 billion dollars to US\$1.279 trillion in 2015. The emotion ICT market in Korea will also expand, from this year's estimated US\$3.7 billion dollars to US\$26.8 billion, demonstrating a yearly growth rate of 114 percent.

Also, the fusion between technology and emotion is spreading broadly to other non-ICT industries, such as the automobile, medical, construction, interior and aviation industries. The worldwide market of these non-ICT industries is also estimated to increase, showing a 9.5 percent yearly growth rate from 2011's US\$619 billion to 2015's US\$914 billion. In the Korean market, a 9.7 percent yearly growth rate is expected, from 2011's US\$16 billion to 2015's US\$23.8 billion.

As made evident in the current ICT industry's tendency toward mass customization, consumers now want a product that perceives their emotions beforehand and fuses their emotions into the devices and services. This can range from a mobile phone manifesting the owner's emotional state by the colors on the touch screens to a car that prevents an accident by perceiving the driver's drowsiness, to PCs that read the user's emotion by their voice and movement – all examples of the Emotion ICT. The Emotion ICT industry advanced from this need of individual customization of its devices and services. Many would agree that one of the biggest developments of ICT in the 21st century is the creation of smart phones. However, the limitation of the current ICT industry, specifically, mass customization, can be easily seen in the smart phone industry as well. As technology and



Andrey Kiselev | Dreamstime.com

its devices develop and become standardized, more consumers of smart phones will long for a more simple and emotion-adopted technology to satisfy their personal needs.

International institutions and companies including MIT, Microsoft, Mercedes-Benz and Sony have been pushing emotion-fused technology as their next-generation project, actively developing the technology. MIT's Media Lab research consortium, "Digital Life" and "Things That Think" (TTT), are some of the projects that represent the development in this technology. The TTT research consortium vision in particular is to insert computation into daily objects and environments, allowing computational capability to contribute to human creativity and productivity, individual health, and well-being while enhancing learning, ultimately interacting with humans on a deeper level similar to the emotions of the human state. Mercedes-Benz's Attention-Assist software is also an example of emotion technology that is operated by sensors that determine the driver's condition. With the data on acceleration, operation of the wheel and turn signals, the software facilitates preventing accidents related with driver drowsiness. In Japan, Sony is developing game software that can perceive the user's emotion by human language and facial expression, as well.

In Korea, the current Emotion ICT industry development is in its early stage, and the technical skills are estimated at approximately 50 to 60 percent of those of developed countries. On March 30th, at the "Emotion ICT Industry Outlook Forum," hosted by Korea's Ministry of Knowledge Economy, the ministry announced its plans to establish projects of investment, development and policy collaborations among government departments related to Emotion ICT industries. Also, the ministry plans to build a test bed and establish infrastructure for the industry's development. R&D roadmaps and rolling-plans of these projects will take place. The ministry stated that the gap between Korea and other countries that have advanced Emotion ICT technology may be clear due to lack of core technology such as emotion sensors, but by using Korea's top-level IT infrastructure, Korea has a high possibility of becoming a worldwide leader in the Emotion ICT industry in the future.

"Based on the existing skills in the IT field, the economical ripple effect on various industries will be huge when emotion-based technology blends with this [IT] technology," said Yoo Soo-geun, Director General of the ministry's Electronics & IT Industries division. ^{A-P}

9 Technology Trends for Asian SMB's

BY LYNETTE WU

The first quarter of 2011 has come to pass and the Asia-Pacific region is fast moving into an era where several new and innovative technologies are changing the way people in the region interact with one another, find entertainment and do business.

Small and medium businesses in Asia, made hungry by the recent economic downturn, have recovered more strongly and rapidly than their European and American counterparts.

This can be attributed in part to these SMBs adapting new strategies for addressing key business constraints by using innovative technologies that are not only cost-effective but are bringing in much needed revenues which SMBs need to survive. The following describes some of the top technology trends more and more Asian SMBs are heading towards on the road to greater stability and survivability in the ever-changing global market.

Trend 1: Mobile Applications and the Mobility Market Taking Off

The tremendous popularity of mobile internet-ready devices has encompassed the world, but it is much more evident in the Asia-Pacific region. Smartphone sales have reached phenomenal growth rates in the region, ranging from 32 percent to as high as 90 percent growth year-on-year (YoY), and they are expected to balloon much further in 2011. A significant part of this is the exploding popularity of mobile applications, which have now entered the realm of the SMB arena in coming out with applications that are both interesting and useful for small and medium business applications.

A resultant effect of the popularity of mobile devices is the growing trend towards mobile eCommerce, with Asian companies such as Tencent and Baidu in China, Rakuten in Japan and NHN in Korea dominating the mobility marketplace ahead of their western counterparts. Industry experts are predicting that by 2014, the mobility market will reach revenues of over US\$1 trillion, with mobile payments made quadrupling in amount and

which would reach figures amounting to US\$630 billion.

Trend 2: Cloud-Based Services are Here to Stay

Small and medium businesses are now relying more on technology which they have shunned in the past due to budget constraints, but which are now being made available and cost-effective through cloud-based services. These services offer an inherent pay-as-you-go model to gain access to IT efficiencies that small and medium businesses will need on their road towards recovery and growth.

Over 30 percent of Asian SMBs have already embraced the cloud and many more have signified their intent to do so this year or in the next couple of years. According to Forrester Research, the global cloud computing market will reach levels of up to US\$116.5 billion. In a similar report from Gartner, it is expected that 20 percent of all businesses will use cloud computing instead of maintaining their own IT assets.

Trend 3: Emergence of Social Media Management Solutions

Social media has grown into a very powerful marketing channel in the modern era that businesses are jumping into in the quest for their piece of the online pie. There are now over 700,000 small and medium businesses maintaining active pages on Facebook, contributing to the more than 3.5 billion content items shared in this social media site each week. They are also taking an organic part in the millions of tweets and blog posts talking about brands, products and services.

However, the sheer quantity of content floating around in the social media space forces businesses to spend considerable time and resources to sift through the chaos in order to monitor and manage their brand or company's social media presence. Social media management solutions are now emerging to help businesses integrate and manage social media marketing interactions across multiple venues. With such solutions, businesses can drive more businesses through their social media investments and easily spot new opportunities amidst the chaos that is social media nowadays.

Trend 4: Apps become Key Channels and Sources of Information

The popularity of both web-based and mobile apps continue to grow strongly this year and on into the coming years, evolving in function from mere entertainment smartphone add-ons to becoming useful and innovative business and efficiency tools for small and medium businesses. Half a million apps are downloaded each and every hour and an average smartphone user has at least 22 apps on their device at any given moment.

Apps are now poised to evolve beyond the smartphone and will soon enter the realm of Internet TV, desktops, web browsers, Blu-ray players, and even car multimedia players. This would make the app a key channel and source of information for potential consumers to get to know more about the products and services a particular SMB provides. This makes apps an ex-

cellent choice for SMBs in the Asia-Pacific region that are trying to find which technology they might delve into in order to reach a wider and more targeted customer base.

Trend 5: Rise of the Tablet Makes Apps Even More Popular

With the innovative functionality of these devices compounded by the wide variety of business-applicable apps available for use, SMBs are finding smartphones a great help in running and managing their businesses. But experts are seeing that the scenario may change in the near future – with the entry of the tablet.

Tablet PCs offer even better functionalities over the physical limitations of the smartphone, so that SMBs in the Asia-Pacific region are starting to turn their attention towards what this device family can offer. Adoption among SMBs is incredibly strong even after only a year of introduction, with 10 percent of small businesses and 22 percent of large businesses now adapting and using tablet PCs. This trend is expected to continue growing as later versions of tablets from more vendors are being introduced into the market.

Trend 6: Business Intelligence Solutions Taking Off

The amount of digital information uploaded everyday into social networking sites, online video sharing networks, digital photography uploads, and mobile phone uploads has passed the 1 zettabyte mark in 2010. That's 1,000,000,000,000,000,000 bytes, or 1 followed by 21 zeroes. According to the International Data Corporation, this amount will continue to multiply by up to 44x during the next decade.

With the amount of information available online, Asian businesses might find it hard to gain relevant insight that will help them measure and manage their businesses. With business intelligence solutions made more practical and less complex, as well as more cost-effective, for small and medium enterprises, such businesses can now more readily make sense from all the clutter of information by sorting through and streamlining their data collection, analysis and reporting.

Trend 7: Integration Will Be a Major Factor for Selection of Key Business Solutions

There are several technologies and business solutions available for Asian small and medium businesses, with cloud computing and social media management solutions at the top of the priority lists. However, although these solutions offer cost-effective and manageable channels that SMBs can use to run and manage their businesses, many would still prefer that all these solutions synchronize, interact and share information with each other – as an all-in-one integrated business solution for the SMB.

This turnkey integration is required by SMBs to gain the full value and benefits from these myriad technology solutions at their disposal. A solution that can not be integrated into the mainstream system will be discarded or not selected in the first place, despite its promise as an excellent stand-alone solution. SMBs would rather

choose a comprehensive and integrated business solution suite as part of their key business option.

Trend 8: Faster Virtualization Adoption by Adopting Hybrid Computing Solutions

Virtualization solutions offered by unified data centers can be the most cost-effective computing solution small and medium business in the Asia-Pacific region can adapt. However, there are still several concerns being raised by SMBs, particularly in areas concerning security, stability and the ease of management of virtualized environments. Vendors should do their part to educate SMBs regarding virtualized environments and what they can do for businesses, particularly with their data center needs.

Trend 9: Adoption of New Communications and Collaboration Solutions

Communication and collaboration have always been two of the most important aspects for any business, perhaps more so now than ever before. Asia-Pacific businesses wanting to enter a wider and more global market base need to have a continued convergence with their communications and collaborations infrastructures to be able to communicate with customers from any part of the world.

According to market research, 20 percent of small businesses and another 32 percent of medium businesses have adopted or are planning to adopt new communications and collaborations solutions this year or in the near future. Many of these solutions are web-based, which can make it easier for employees to conduct their day-to-day business activities such as sharing and managing information and resources more effectively, right through their own web browsers. Management can easily get in touch and collaborate with their staff, employees, and suppliers as per their needs at any given time.

Analysts and industry experts are seeing 2011 as a year of growth for small and medium businesses, not only in the Asia-Pacific region but worldwide as well. An increase of opportunities is becoming available for SMBs in terms of technologies and solutions that will help these businesses increase sales for their brands, products and services. ^{A-P}

FURTHER READING:

- Information Week
www.informationweek.com
- IDG Connect
www.idgconnect.com
- Penn Olson Asian Tech Catalog
www.penn-olson.com

COMPANIES MENTIONED IN THIS ARTICLE:

- International Data Corporation
www.idc.com
- Tencent Holdings
www.tencent.com
- Baidu
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m-Learning: A Promising Future

BY MEENAKSHI SHANKAR

Mobile learning is the buzzword in training these days. Many companies, schools, organizations, and individuals have been successfully implementing mobile learning solutions.

Simply put, m-learning is the act of learning through the use of mobile devices. The technology is mainly targeted at people who are always on the move.

M-learning, which is a natural extension of e-learning, is currently making an exponential leap in terms of real contribution to learning as compared to traditional exploration via theory and lectures. This type of technology can be accessed with ease and it has the potential of extending knowledge and the learning process across geographical boundaries and generations.

With the increasing number of new mobile users - from urban centers to rural

areas, from the young to the old, from the emerging middle class to the many itinerant workers - the interest in considering mobile technology as a delivery medium for learning is increasing day by day. Compared to the use of PCs, there appears to be less cultural resistance to the understanding of using mobile phones.

China, which accounts for almost 20 percent of the world's population, clearly stands apart as a mobile marketplace. The enlarged scope and complexity of the Chinese market contributes to the market diversity.

Apart from their usage for communication and entertainment, mobile devices are growing to be of great use in workplace learning, where they enable the user to be part of any program, access information on the go and above all, allow the user to leverage mobile learning platforms as a performance support system.

Today, organizations are expected to be more agile than ever to maintain their competitive edge in the global marketplace. To reach such expectations, companies aim to adapt to situations and regularly update strategies, structures and processes. Employees are expected, or in some cases, rather, forced to be connected to information constantly. In order to optimize their productivity, employees are finding it difficult to allot more time for learning and to participate in formal learning activities. As a result, more and more companies are looking at a technology that will help them to share updates more quickly and easily anywhere and everywhere.

For today's connected lifestyle of the

wireless society, m-learning plays a critical role in helping organizations meet timeliness, proximity, and versatility. Effective mobile learning solutions are today believed to be a viable solution that can help one manage learning constantly, even while on the move. In this mobile-enabled environment, one can access training activities in the form of videos, podcasts, eLearning courses, quizzes and evaluation surveys, all while using one's mobile device to share knowledge with others in real-time. Listening, observing, questioning, estimating, predicting, speculating, and practicing - all of these learning processes can be supported through mobile phones.

Almost every sector will benefit from the use of m-learning. However, it is believed that the three primary areas which will feel the biggest impact from m-learning are education, agriculture and healthcare.

Asia and Europe are surging ahead in terms of accepting mLearning technology as compared to other world markets. Currently, several companies from these regions are experimenting with efficient and more interactive learning technology for mobiles.

Because of their fairly low cost and accessibility in low-income communities, mobile devices are believed to help advance digital equity, reaching populations (especially children) from economically disadvantaged communities and those from developing countries.

Did You Know?

In 2007, the Asia Pacific International

Mobile Learning Advisory Panel was set up to lead and support all countries in the Asia Pacific region in the efforts to develop and promote mobile learning infrastructure, applications, devices and content.

In a recent study titled, "m-Learning: Mobile Learning is Finally Going Mainstream - And It Is Bigger Than You Might Think," research and consulting firm Bersin & Associates found that mobile learning has finally gone mainstream.

The growth, according to the research, has been driven primarily by consumer demands in both the developed and developing worlds, as well as mobile-technology oriented industries, including high-tech, business services, and healthcare.

The company believes that this explosive growth rate of adoption of m-learning is basically due to the availability of easy-to-use and relatively inexpensive smartphones, eBook readers, netbooks, tablets, user-friendly applications, and so on.

The research also found that use of mobile devices for learning had risen from 9 percent of U.S.-based organizations in 2007 to an estimated 20 percent or more in 2010. The research also notes that informal uses for m-learning vastly outnumber the formal.

One of the examples of successful mobile learning programs adopted by leading companies is the uPodcast program created by Accenture. Reportedly, the program, which enables subject-matter experts and the organization's leaders to share knowledge at a minimal cost, has been accessed by more than 20,000 employees to date.

Coca-Cola, in association with Kelley Executive Partners, created an alternate reality game that combines social and mobile technologies to drive understanding of how millennial consumers use Web 2.0 technologies to help Coca-Cola develop a more effective marketing strategy.

Bersin & Associates suggests that learning organizations need to rethink their methods, practices and perspective to support meeting business learning needs at the pace that business today requires, and via the formats and modalities used by business.

Benefits of M-Learning

- Anywhere, anytime learning
- Supports social interactions and encourages collaboration
- Fits more naturally within any other learning environment
- Enables personalized learning

Continued from Page 23
to 22 percent.

Chinese companies are gearing up towards this end by investing heavily in acquiring more leverage in the market, moving beyond the local arena and into the international scene. One popular example is Tencent Holding's acquisition of US-based Riot Games. The Chinese company at one time reportedly had 20 million users online at the same time. This staggering figure is already bigger than the population of several small nations but these figures are still expected to grow exponentially in the next

couple of years. Connectivity plays an extremely important role and is the backbone of m-learning. With the help of a strong connectivity network, one can link to any information updates that may be relevant to them while on the move.

Reportedly, University of Otago students are watching or listening to many more of their lectures through podcast transmissions. Students are using the podcasts, involving a series of digital media files which they often download to their laptop computers, to refresh their memory about classes, or to help out if they have missed a class through illness. Students can also transfer lecture materials to other mobile devices, such as MP3 players. This enables them to listen to lectures over their earphones while walking.

Indian educationalists have also been working on using technology to expand the reach and quality of primary and secondary school education. In the past, they have used radio, television and computers to reach more students and make school more exciting for them. Through there was a slight improvement in comparison to traditional systems of education, m-learning typically fit with a platform in exposing students to project-based learning or student collaboration of the kind that can help develop life-skills.

In the past, graduating students have tended to lack the problem-solving, technology and planning skills required to contribute effectively to a working environment. This can have a direct impact on the country's economy and productivity. Reports indicate that India is also increasing adopting m-learning technology, and in one government high school in Bangalore, mobile phones are being used to ring in these changes.

"It doesn't replace a lecture, but rather is another tool students can use in their learning," Information Technology Service (ITS) teaching and learning facilities manager Emerson Pratt said.

A basic m-learning infrastructure includes a Learning Management System, which when put together with a micro-portal interface layer will facilitate access to m-learning services through a variety of mobile devices and also enhance its reach through web and TV access.

Did You Know?

Kids Cashier is a mobile educational game that allows one to learn mathematics while playing the game.

But as has often been said, every technology has its own pros and cons. Some of the

disadvantages of m-learning through mobile devices are:

- Small screens of a mobile
- Memory capacity limitations of mobile device
- Charge time
- Bandwidth

Apart from these relatively minor obstacles, mobile learning is currently the most useful supplement to online learning and other traditional learning methods, and it is playing a central role in enriching the learning experience. Various countries are already enjoying the benefits of mobile learning, which clearly indicates that the growth trend is to continue into the future.

Apple says that its revolutionary iPod touch and iPhone are perfect for on-the-go learning. The company says not to let their small size fool you. These devices put thousands of apps and countless possibilities in users' pockets. With so many education apps available, the company enables every user of its devices to carry an entire library of reference materials with them anywhere. Apps help transform the way teachers teach and students learn. And there are apps for every subject and every stage of learning, says the company. Customers are given the facility of just tapping on their iPhone 4 or iPod touch to initiate a video chat and collaborate on projects with other schools, hold a virtual field trip, or talk. FaceTime also provides a face-to-face way for students with illnesses to chat with teachers from home. And there are over 800 universities with active iTunes U-sites.

Institutions like Stanford, Yale, MIT, Oxford, and UC Berkeley distribute their content publicly. Students and faculty can now access a wealth of content from distinguished entities such as MoMA, the New York Public Library, Public Radio International, and PBS stations right from their phones.

Above all, m-learning even allows students to take online tests and exams. These range from entrance exams to education assessments, certification and promotional exams, skill based assessments and test preparation, including diagnostic, practice and mock tests.

Not only this, organizations are able to now gear up to newer challenges and grow rapidly by effectively allowing employees to access skill gap analysis and training via technology-based enterprise mobile solutions.

There is little doubt that mobile learning is to be suitable for almost anyone, now and into the future...get the grip of it today. **A-P**

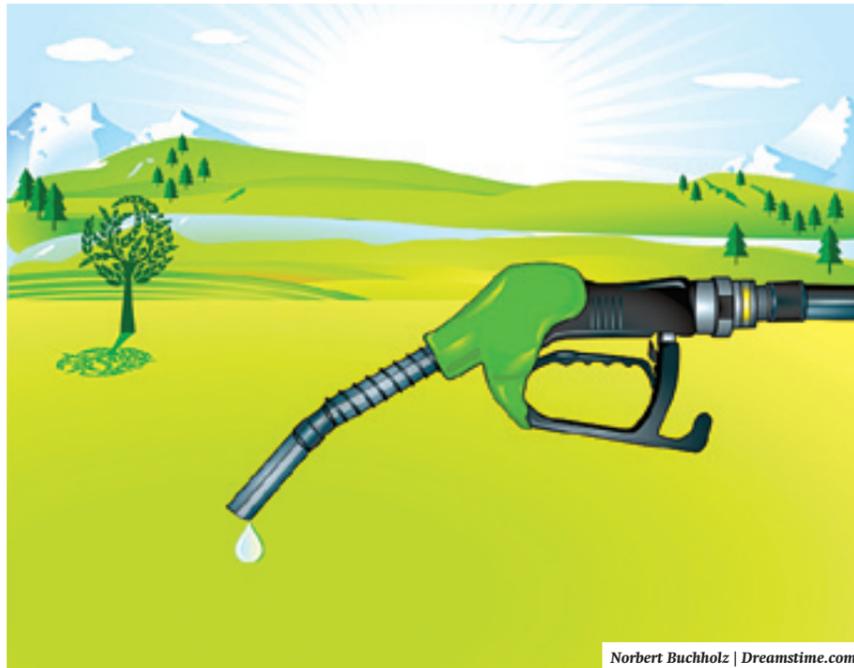
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COMPANIES MENTIONED IN THIS ARTICLE:

• **Tencent Holdings**
www.tencent.com
• **Zynga**
www.zynga.com
• **ChangYou**
www.changyou.com

FURTHER READING:

• **Digi-Capital**
www.digi-capital.com



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Clean Diesel Technologies in Asia

BY XIE-YAN

While a global rush is underway to seek renewable energy resources that will provide clean and sustainable alternatives to fossil fuels, efforts to improve conventional fuel sources persist in various parts of the globe, including the Asia-Pacific region.

One such endeavor is the use of clean diesel technologies, or what is more technically known as ultra-low sulfur diesel, or ULSD. By extracting and lowering the sulfur content in diesel fuel, new emission control technologies can then be used to lower the amount of harmful emissions generated by diesel engines.

Since 2006, the use of clean diesel has been practically put in place in most parts of Europe and North America, with each region promulgating allowable sulfur content values ranging from 10 to 50 parts-per-million (ppm). Nitrous oxide emission is greatly reduced and the reduction of sulfur levels makes the fuel usable with next-generation advanced emission control devices that would further reduce the emission of harmful particulate matter into the atmosphere.

By 2010, half of the total global diesel consumption used clean diesel, and as technologies and regulations roll over to other countries in the Asia-Pacific, the percentage use of clean diesel will significantly increase further. New developments in clean diesel technologies are now being introduced,

such as the Tier 4 Interim standards that boast of producing the cleanest diesel engines that will generate minimal or near-zero emissions. This would have a tremendous effect in the environment, particularly in Asia where diesel use to support booming economies is still a necessity.

Clean Diesel Regulations and Use in Asia

Diesel usage is prevalent in most developing countries around the world, particularly in the booming economies in Asia such as China, India and Southeast Asia. China is still the largest diesel market and has the largest consumption of diesel fuel. It has started limiting sulfur content in diesel down to 2000 parts per million (ppm) since 2002. In some cities, the requirements are more stringent at 500 ppm and would expectedly go down even more as new clean diesel technologies are introduced.

The extensive use of ultra-low sulfur diesel and clean diesel machineries can significantly reduce the amount of emissions that would be generated by this economic boom. Other regulations and usage trends for clean diesel in other Asian countries include:

- **Hong Kong** – This city actually became the first in Asia to introduce clean diesel to its local market way back in July 2000, by regulating sulfur content down to 50 ppm. Alongside this regulation, Hong Kong also adopted the more stringent Euro III standard for new private cars using petrol.
- **India** – To curb the growing vehicular pollution clogging its cities, India finally adopted the use of clean diesel in April 2010, with sulfur content levels lowered from the existing 350 ppm down to 15 ppp for ULSD fuels.

- **Singapore** – The National Environment Agency (NEA) in this country mandated the use of ULSD starting December of 2005 and mandatory conversion to Euro IV-compliant automobiles by 2007. NEA defines clean diesel as having less than 50 ppm or 0.005 percent sulfur content.
- **Taiwan** – Since 2007, Taiwan has already adopted the Euro IV standard for automobiles and limited sulfur content down to 50 ppm levels.

Future Trends for Clean Diesel in Asia

The following describes some of the future trends and developments in clean diesel use in other parts of Asia and the Middle East:

- **Japan** – In 2011, the Fuji Heavy Industries Ltd. of Japan will be rolling out clean diesel engines for its domestic market, starting with diesel models of its passenger cars.
- **United Arab Emirates** – By 2012, the Abu Dhabi National Oil Company (ADNOC) will start to produce low sulphur “green” diesel in new refineries in Ruwais. Currently, the sulphur content of ADNOC’s diesel has 500 ppm and the new refineries will slash this level down to 10 ppm. The new refineries will have the capacity to generate 417,000 barrels per day of clean diesel.
- **Saudi Arabia** – The Saudi Aramco Shell Refinery (SASREF) has previously launched its new low sulfur diesel unit in Jubail, which is capable of producing 100,000 barrels of clean diesel every day with sulfur content of less than 10 ppm. The plant expects to meet the high-standard diesel requirements in Europe as well as help reduce emissions produced by the use of diesel fuels.

New technologies are also being developed in this area to further improve clean diesels, such as Shell’s new nitrogen-enriched diesel that is expected to reduce consumption by up to 4.8 percent. Such developments will not only help protect the environment but will also provide cleaner fuels to consumers and reduce harmful emissions without the need to change machineries and equipment. [A-P](#)

FURTHER READING:

- **Mindbranch**
www.mindbranch.com
- **PR Newswire**
www.prnewswire.com

COMPANIES MENTIONED IN THIS ARTICLE:

- **Saudi Aramco**
www.saudiaramco.com
- **Fuji Heavy Industries Ltd**
www.fhi.co.jp
- **Abu Dhabi National Oil Company**
www.adnoc.ae

Turning Over a New Leaf in Energy: India’s Tata Group Offers a Cheap and Renewable Source of Energy for All

BY MATTHEW WEIGAND

Every time you hear about a new technology, people say it will change the world. Rarely does the hardware live up to the hype. But this time, it just might.

There is now a low-cost artificial leaf that runs on water and sunlight that can produce enough energy to power a home in the developing world, courtesy of MIT’s Dr. Daniel Nocera and India’s Tata Group. Water and sunlight...how can you go wrong here?

Dr. Nocera announced his research, while unpublished, at the 241st meeting of the American Chemical Society on March 27 in Anaheim, California. He showed a small, thin catalyst the size of a poker card that, when placed within a bucket of water, automatically broke down the water into

Continued from Page 31

hydrogen and oxygen. Millions have seen it done in elementary school science labs, but it usually requires electricity, and a lot of it. But this new reaction requires nothing but sunlight to work. The idea is to capture the hydrogen and re-use it in a fuel cell in order to provide electricity. Dr. Nocera said that one leaf and a gallon of water could power a home for a day, when coupled with an efficient fuel cell. That is where the Tata Group comes in. They have already

been working with Dr. Nocera to develop an older artificial photosynthesis device, and will continue to work with him on this latest breakthrough.

The real clincher of this development is not the idea of an artificial leaf – that was first developed by the U.S. National Renewable Energy Laboratory over ten years ago. It lasted only a day and as it was made with expensive, rare minerals; it was obviously quite impractical. This newest leaf is made with nickel and cobalt, and at the time of the announcement, it had operated continuously for 45 hours with no sign of degradation. Estimates of its commercial cost vary from between US\$50 to \$100. When compared with other solar-powered fuel cell technologies that cost upwards of US\$12,000, this is an insanely large dip in affordability. Also, the artificial leaf doesn’t even need pure water. It is able to catalyze sea water, dirty water, and even wastewater. It will even work in a puddle.

Dr. Nocera is something of an idealist. He said about this advancement, “A practical artificial leaf has been one of the Holy Grails of science for decades. We believe we have done it. The artificial leaf shows particular

promise as an inexpensive source of electricity for homes of the poor in developing countries. Our goal is to make each home its own power station. One can envision villages in India and Africa not long from now purchasing an affordable basic power system based on this technology.” There are, of course, some unanswered questions about this technology. The basic idea of breaking down water into hydrogen and oxygen using just the power of sunlight is there, but you don’t go straight from hydrogen and oxygen to a fully-powered house in Tanzania. There are some missing steps. So by itself, this artificial leaf cannot be the answer to all of the world’s energy problems. It must be coupled with a mechanism for collecting the hydrogen and then converting it into electricity. This is where the Tata Group is expected to come in and fill the gap with a fuel cell. Fuel cell technology is rather well-developed and currently in use in some parts of the world. It is a closed catalytic system in which hydrogen and oxygen are combined together to make water and electricity. Fuel cells currently depend on a steady supply of hydrogen, and at current prices hydrogen is more expensive than gasoline, which means it makes more sense to use a diesel generator than a hydrogen fuel cell to produce electricity. This leaf should be able to make hydrogen for simply the cost of the leaf itself and the water it uses. The big question then is how to collect the hydrogen and put it in a fuel cell in an efficient and cheap fashion. If this process is extremely expensive, the entire point of the artificial leaf will be lost. Also, using fuel cells to power a house should also involve a cheap installation, otherwise once again the advantage over other fuels is lost. [A-P](#)

spread of malignancy. Governmental health policies are being tweaked to address the proliferation of breast cancer in the younger generation of women. However, social and medical experts opine that the substantial increase is due to the adoption of more stressful life styles. The road to achieving successful corporate life in the metros of China is having an undeniable impact on the overall health of Chinese women.

The Roadmap for Nullifying Cancer
Now that studies and surveys have revealed the steady growth of cancer amongst the Chinese female population, it is of paramount importance that advance screening of women around the age group of 35 years is done on a regular basis. These tests should preferably be held every six months, as Chinese women are prone to incidence in the age group of forty to fifty years and even in the pre-menopause stage. Early detection and diagnosis will contribute to lowering the rate of breast removal and instead nurture breast conservation methods. It will also increase the efficiency of cost-saving treatment in bringing regular physical examination to improve Chinese

women’s cancer survival rates. However, there are greater alarming statistics, in that only forty percent of the nearly one and a half million Chinese breast cancer patients even opt for physical examination.

Walking track-record
The straight path to prevention of breast cancer is to first of all move away from the vicious cycle of stressed careers, high-calorie food intake, fatty food dietary content and sedentary lifestyles. These only contribute to building malignancy of cells, and when there is no early detection, the tumour would have already spread beyond a range where it is impossible to contain further spread, despite non-saving surgeries. Traditional Chinese food items such as soya, green tea and several similar indigenous foods are considered to contain the right receptors that will inhibit the growth of cancerous cells from within the body itself. In addition to a healthy, nutritional balanced diet an excellent exercise regime such as brisk walking is known to overcome several lifestyle diseases ranging from hypertension to the rich man’s bane of diabetes and of course the cursed cancer. [A-P](#)

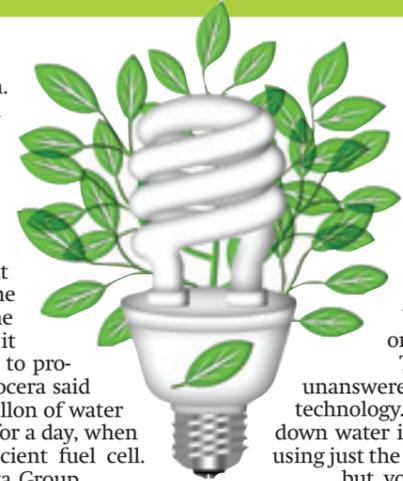
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China Promoting Energy-Saving Building Materials in Rural Areas

BY KEVIN LIU

For several years now, construction has been booming in China, which is in fact the geographical location of at least half the latest building constructions around the world.

What is amazing is not only the sheer volume of construction projects going on but also the incredible growth rate of almost 2 billion square meters of building floor space each year.

This construction boom is taking its toll however as the nation needs to support all the energy needs of this industrialization with up to 45 percent of its power capacity. With its current growth rate, China can double the number of existing buildings now up to the year 2020. The problem is whether China will be able to provide all the energy requirements to support this growth.

A concrete step to address this issue is to make extensive use of energy-efficient building materials and technologies to create a new generation of green buildings for the

country. The nationwide move is so aggressive that the Chinese government is calling for a 50 percent energy savings target for new buildings. This target was even made higher at 65 percent for new building construction in the four major urban areas of Beijing, Chongqing, Shanghai and Tianjin.

Now they are taking this a step further by initiating plans of bringing and promoting energy-saving materials and technologies to rural areas under the auspices of the Ministry of Housing and Urban-Rural Development's (MOHURD) Department of Village and Township Construction, along with five other ministries. Pilot programs are currently being initiated in the Shandong Province and Ningxia Hui autonomous regions, and soon other provincial regions will follow suit.

Energy Efficiency Push in China

As early as the 1980's China had already been looking into green building technologies to ease the energy problems the nation was already facing. However, the resources and technologies available to the nation then were not yet sufficient to pursue any concrete programs in these areas. By 2006, an energy conservation design standard was finally released by the government, which will be used as a guideline for contractors to follow in adopting green building tech-

nologies. Building for energy efficiency involves energy-saving cooling, lighting, heating and ventilation systems as well as making use of energy-efficient materials. However, the construction cost for green buildings is 100 to 150 yuan more per square meter than standard building materials and procedures. But according to the Worldwatch Institute and other proponents of green building, the monetary benefits derived from energy-efficient building will be ten times the original investment in a matter of 20 years or less.

Even China's Ministry of Construction agrees that using energy-efficient technologies for new buildings or retrofitting existing ones can reduce consumption of standard coal by 150 million tons annually, saving the nation over 600 billion yuan in costs each year. Now, there are 140 green buildings undergoing construction in China which will be located in 11 green cities. Soon, they will be taking this green movement to the countryside.

Bringing Energy Efficiency to the Countryside

With the growing success of green building construction in China's urban areas, the government is advancing the market for energy-saving building materials into the countryside, which will be the nation's future economic arena. Instead of the traditional building methods of the past, rural urbanization will embrace the use of building materials specifically intended for energy conservation.

These materials are lightweight but with good thermal capabilities, making life for the rural folks more comfortable even during the harsh winter periods these regions face. There will be extensive use of solar power and solar heating technologies that will provide an alternative source of electricity, while making rural homes and buildings very comfortable and energy-efficient. **A-P**

FURTHER READING:

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www.articleintelligence.com
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www.info.e-to-china.com

COMPANIES MENTIONED IN THIS ARTICLE:

- Worldwatch Institute
www.worldwatch.org

also clinicians and of course patients.

Not only in therapeutic uses, stem cells help treat hair fall too. Stem cells grown from fatty tissues are used to promote hair growth by administering stem cell injections. Adult stem cells generate new hair growth for people who suffer from androgenetic alopecia and other forms of hair loss as they can promote new hair follicle formation at places with unproductive follicles. This also opens a huge potential market. However, more research needs to be done and extensively tested to use stem cells for cosmetic purposes as well as medical uses. **A-P**



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Growing Competition in Solar Energy Sector and Korea

BY EUN YOUNG CHOUGH

Not long after Google announced that it had invested US\$168 million to develop the world's largest solar energy power plant in California's Mojave Desert, General Electric (GE) announced its plans to build an advanced technology, thin-film solar panel factory in the United States, which is anticipated to be larger than any other existing solar panel plant in the country.

As international corporations spur investments into solar energy, the worldwide solar energy market is showing signs of fierce competition.

Based on reports by the Export-Import Bank of Korea (Korea Eximbank), a stiff competition among companies in the solar energy industry is expected in 2011, as the demand capacity of involved companies is exceeding supply. Until recently, supply facilitated by the result of policy aid made it possible for companies to manage stable growth. However, the problems of supply

overabundance are rising, since Chinese companies are aggressively building additional plants. Korea Eximbank also estimated that small and mid-sized businesses that lack profitability in the solar energy industry will lose their market share, but larger companies with high profitability will show a continued increase in share. Thus, the number of companies restructuring with low profitability and M&As by leading companies to expand their market power will rise. In this sense, international companies such as Google and GE that invest in solar energy power will facilitate the competition further.

Market growth estimates of the solar energy industry provided by Solarbuzz, a company providing solar market research and analysis, state that in 2009, the global revenue of the photovoltaic solar industry was US\$38.5 billion, which is an estimate that includes the sale of solar modules, related equipment, and the installation of solar systems. In 2014, however, Solarbuzz forecasts the photovoltaic solar industry will grow from US\$46.3 billion to US\$96.8 billion. Photovoltaic installations are also expected to show an increase to 15.4 37 GW in 2014 from 8.4 13.1 GW in 2010, which is five times larger than the size of the 2009 market's 7.3GW.

Google's investment in the new solar energy power plant in California is in cooperation with BrightSource Energy. Google's official blog states that BrightSource's Ivanpah Solar Electric Generating System (ISEGS) will produce 392 gross MW of solar energy, which is the same as "taking more than 90,000 cars off the road over the lifetime of the plant, which is projected to be more than 25 years." Google has also invested in solar energy in Germany, cooperating with Capital Stage from Hamburg, Germany, which is Google's first investment in renewable energies in Europe. The two companies will jointly operate the solar power plant, which is one of the largest German solar farms being connected to the grid in 2010, according to a statement by Capital Stage. 49 percent of the acquired

18.7 MW solar power plant in Brandenburg will be sold to Google.

GE also plans to manufacture solar panels at a new factory in the U.S. As announced by GE, the company is expecting to construct a "record-setting" factory that will be larger than any other in the U.S. GE claims the factory construction will stress the expected \$600 million plus investment made in solar technology and commercialization. The company also stressed that the factory will be "complemented by the recently announced acquisition of power conversion company Convertteam." The panels produced yearly by the factory are expected to power 80,000 homes annually.

Major enterprises in Korea are also joining the competition in the solar energy market, especially the polysilicon market. Samsung, Hanwha, Hyundai Heavy Industries and Woongjin are currently building or operating plants to produce polysilicon, while LG Chemical stated that the company is considering building a plant if the board of directors approves the plan. Hanwha also invested US\$920 million in manufacturing a polysilicon plant with a production capacity of 10,000 metric tons a year.

Korea's OCI, the second largest supplier of polysilicon in the world, has invested US\$1.7 billion dollars to build their fifth polysilicon production plant that will be able to produce 24,000 metric tons a year. OCI plans to be the world's number one polysilicon supplier by 2012, beating out Hemlock Semiconductor Group of the U.S.

With soaring oil prices and a negative perception of nuclear energy production, the solar energy market is expected to expand rapidly. Reports estimate that the grid parity of solar energy production will arrive two to three years before 2015, which is far earlier than expected. It seems clear that in the near future, with the mass production of solar power systems and subsequent price decreases, solar energy power will mean more than just an energy source that produces "expensive" electricity. **A-P**

Nuclear Energy Crisis and Future

BY ANSHU SHRIVASTAVA

The development and economics of the world revolve around energy.

Both developed and developing countries are nowadays seeking alternative resources of energy to cut down on their over-dependence on natural resources that are rapidly being depleted. Nuclear energy has emerged as an attractive alternative, and countries across the globe are constructing, or planning to construct, nuclear power plants to tap this source of clean energy. However, the recent crisis at the Japanese Fukushima Dai-Ichi plant has triggered an alarm bell all across the world, prompting countries to reassess their nuclear energy policies.

Nearly devoid of natural fossil fuel resources, Japan started working on its civilian nuclear energy program way back in the 1950s, and since 1973, nuclear energy has been its national strategic priority. The first commercial power reactor began operations in mid-1966 in Japan. The country's 55 nuclear reactors operating today fulfill around 30 percent of Japan's electric power needs. There are plans in the pipeline to invest in more nuclear power plants to raise the dependence on nuclear energy to 50 percent by 2050; these plans, however, now have been put on the back burner for security re-assessment. In light of the current nuclear crisis, thousands of Japanese have now taken to the street all across the country protesting against their country's nuclear-power plant operations.

This year in March, Japan was hit by a 9.0-magnitude undersea megathrust earthquake – the strongest ever in the country's recorded history. The 23.6 m high tsunami which followed the massive earthquake triggered nuclear shutdowns, failures, partial meltdowns, and ultimately the failure of cooling systems at the Fukushima Nuclear Power Plant. With the plant leaking a significant amount of radioactive material since the disaster first struck, the Japanese nuclear regulatory agency recently raised the Fukushima nuclear crisis status to Level 7, the highest on the International Nuclear Event Scale. It now ranks at the same level as the Chernobyl explosion – considered to be the worst nuclear power plant disaster in history – that occurred in 1986.

The fact that Japan has now confirmed disaster at the Fukushima plant as the world's second-ever Level 7 accident will surely have huge consequences for the global nuclear industry. Tetsuo Iguchi, a professor in the department of quantum engineering at Nagoya University, told a media publication, adding that it shows that current safety standards are woefully inadequate.

The consequences are already becom-



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ing clearly visible all across the world as protests against new construction of nuclear power plants have started to gain momentum, and governments have put on hold current construction plans. Safety standards are being re-evaluated and analyzed, and the present status of operational nuclear plants is being thoroughly scrutinized. Countries have suddenly been made skeptical about nuclear energy, sparking a heated debate worldwide on the future of nuclear power.

Japan's crippled Fukushima Nuclear Power Plant has shattered the belief that the plant having the most advanced, secure nuclear power generating technology can necessarily withstand any disaster, natural or man-made. When a developed country like Japan finds itself helpless in putting a lid on leaking radioactivity, it becomes frightening to imagine what might happen if the same scale of nuclear crisis were to unfold in a developing country. G. Kiran Kumar, a representative of an organization that is opposing the setting up of a nuclear power plant at Kuvvada village

district in India, has said that it would obviously be very difficult for India to handle potential nuclear emergency, given the fact that even a fully developed country such as Japan is struggling to overcome its current nuclear crisis.

The Association of Southeast Asian Nations (ASEAN) members such as Indonesia, Thailand and Vietnam are now re-evaluating their nuclear energy policies. Thailand's Power Development Program states the need for five nuclear power plants with a capacity of 1,000 megawatts each to go online beginning in the year 2020; due to Japan's nuclear crisis, however, the country's Energy Minister, Wattana Channukul, said the program would be reviewed.

China has one of the most ambitious plans in the world to roll out nuclear power plants. The country uses fossil fuels to generate around 83 percent of its electricity needs, and its 13 operating nuclear power plants account for around 2 percent of its current electricity production. Though it has plans to construct nearly 110 nuclear reactors over the next few years, the nucle-



Tom Craig | Dreamstime.com

ar crisis in Japan has made the country to pause and re-think.

In March, the country announced its decision to suspend its atomic energy program for the time being, and it postponed approvals for new power stations. A statement from the State Council said, "Safety is our top priority in developing nuclear power plants. Before the revised safety standards are approved, all new nuclear power plants, including pre-construction works, should be suspended."

The Chinese government plans to institute safety checks at existing reactors, as well as at the 27 already under construction, which account for 40 percent of reactors currently being built around the world. The State Council indicated that China's longer-term nuclear ambitions would be "adjusted and improved."

India's Prime Minister, Dr. Manmohan Singh, has called for a safety review of all 20 operational nuclear power plants within the country. The Indian government is facing stiff opposition from environmentalists and locals for one of the sites marked for nuclear plant construction, namely the site for the Jaitapur Nuclear Power Project. Local agitation against the proposed plant gained momentum after the news of nuclear disaster in Japan. The Jaitapur region is prone to earthquakes, and activists fear a repeat of the disaster at Japan's Fukushima plant. Brahma Chelaney, a former advisor to India's National Security Council, told a publication that India's nuclear programs will inevitably be delayed in the wake of the Japan crisis.

In Germany, thousands of people have joined rallies in cities across the country, demanding an end to nuclear power there. The country has decided to temporarily shut-down seven of its seventeen reactors for three months for new safety checks. A decade ago, the country had worked on a plan to abandon its usage of nuclear technology by 2021; however last year, the present government amended the plan, extending the lifetime of nuclear plants by an average of 12 years. This is now being re-evaluated.

The affects of radioactive particles is widely known to be long-term on people, animals, food and water. Humans exposed to these killer particles may eventually suffer from cancer and other fatal diseases. However, nuclear energy is clean – unlike fossil fuels – practically inexhaustible, and is seen as a practical alternative source of energy to fossil fuels such as coal, oil and gas. While it may be a beneficial option environmentally in one sense, the danger

of catastrophe affecting human life will always loom large.

Unlike Germany, most of the countries find themselves incapable of opting to abandon their own respective nuclear energy programs, despite the known risks involved. Sri Setiawati, a deputy to the Minister for Research and Technology for Indonesia, said that developing nuclear energy capabilities was necessary to overcome the electricity shortage that has plagued that nation for years. He said it was important to introduce nuclear power generation into the national energy mix to wean the country off of highly polluting and increasingly expensive fossil fuels such as coal and diesel. Similar sentiments have been expressed by most governments. The present need for development and energy overrides the fear of a disaster in the future.

Despite the Jaitapur protests turning violent, the Indian government has no plans to roll-back its nuclear power project there. It was quoted as saying that the Fukushima disaster would slow down the project but only to allow for further environmental impact assessment. Jairam Ramesh, India's Union Environment Minister, said that though the country needs to learn appropriate lessons from the Japan crisis, it could not simply give up on nuclear energy.

"What has happened in Japan is very serious. We will have to learn the appropriate lessons from this crisis, and whatever additional safeguards or additional precautions are required, we must take, but I don't believe India can abandon its nuclear

Japan's crippled Fukushima Nuclear Power Plant has shattered the belief that the plant having the most advanced, secure nuclear power generating technology can necessarily withstand any disaster, natural or man-made.

energy (program) altogether," Ramesh told the press.

Datuk Peter Chin, Malaysia's Energy, Green Technology and Water Minister, said that his country's plan to build two nuclear power plants will proceed despite the nuclear emergency in Japan. Vietnam's energy officials also voiced similar opinion, saying "The recent explosions at Japan's Fukushima plant will not affect the country's development of nuclear power plants."

Until and unless a better alternative is found, nuclear energy will be seen as the most environmentally beneficial option that will propel industrial growth and development, as well as fulfill energy demands. Learning from Japan's nuclear crisis, countries may now move forward by vigorously investing in safeguards and committing to more stringent regulations. [A-P](#)



Petra Kukofka | Dreamstime.com

Smartphone Revolution in Asia-Pacific

BY ANSHU SHRIVASTAVA

The telecommunications market is metamorphosing into a new story everyday, and its technology and devices are evolving rapidly, almost at a record speed.

The good old landline phone is slowly crawling out of the present and into history, while its successor, the mobile phone, is imbibing new advanced technologies and features to redefine the way people use phones to communicate. Smartphones are the In-Thing today, and it is attracting cell phone users all across the globe. "We are just at the beginning of a new wireless era where smartphones will become the standard device consumers will use to connect to friends, the Internet and the world at large," says Roger Entner, senior vice president for Research and Insights at Telecom Practice.

It's usually seen that the Asia-Pacific market lags behind and takes time to adopt the latest advance technology. The popularity of the smartphone, however, is spreading like wildfire in the region, and similar to North American and European, it's seen as a viable alternative to featured phones in Asia-Pacific. Market analysts believe that the Asia Pacific smartphone market will see a more robust growth in the near future, and the market is expected to double in size to 200 million by 2016.

Smartphones can be described as a handset that has been created by integrating features of handheld computers, camera phone, and personal digital assistance (PDA). IMS Research defines smartphones as mobile handsets that utilize an "open architecture operating system." The user can not only call, receive calls, and send text messages but also connect to the world via Internet and more. Smart-phones enable users to run and install several advanced applications, and application developers can run complete operating system software unlike feature phones. "As the minimum hardware components required to support smartphone features continue to decline in price, smartphones have become mass market devices, rather than luxury purchases," says Chris Schreck, research analyst at IMS.

International Data Corporation (IDC), a global market intelligence firm, predicts that the worldwide market for smartphones will grow by 49 percent in 2011 as consumers and enterprise users are increasingly shunning their feature phones and falling to the charm of smartphones that are loaded with advanced features. IDC's report, Worldwide Quarterly Mobile Phone Tracker, projects that smartphone vendors will ship over 450 million smartphones in



Iqoncept | Dreamstime.com

2011 compared to the 303.4 million units shipped in 2010. The smartphone market is expected to grow more than four times faster than the overall mobile phone market, according to the report. Technology research firm Ovum states that globally, the market will hit 653 million shipments, and the Asia-Pacific market will account for 32 percent of this total.

The market for smartphones in the Asia-Pacific region is growing exponentially, and yet the full potential is still untapped. Market analysts believe that more drastic growth is bound to come. According to a study from IMS Research, annual smartphone shipments to Asia will more than quadruple between now and 2015, giving Asia 29 percent of smartphone shipments during that year.

There are two key factors that are driving the phenomenal growth in this region – low price and the development of cellular markets. The smartphone's increasing affordability reflects in the growing demand and sales of the device. Another key factor, according to Schreck, is the continued development of cellular markets in China and India, "...especially with 3G networks expanding in China and expected to rollout soon in India." He notes that the populations of these countries are significant enough to drive substantial smartphone growth, even

if smartphones make up a relatively small portion of the country's total handset shipments.

In the Asian region, China and India are the most happening markets for smartphones. The cellular markets in these countries, are continuously expanding and seeing advance development. One can see increasing enthusiasm and expenditure for consumer electronics, as well as the fact that there is a continuous increase in 3G penetrations occurring.

The introduction of 3G is expected to boost the smartphone market in India. In addition to a reduction in prices and the roll-out of 3G services, advanced features and applications and increasing use of mobile Internet are attracting more consumers.

Market research firm CyberMedia Research predicts that the Indian mobile handset market will grow 25 percent by volume in 2011 to 210 million units, with smartphones contributing sales of nearly 12 million units in 2011. However, the penetration of smartphones is still low in smaller and rural areas. These areas may contribute to sustained growth when the market matures.

Thanks to Google's Android OS, the smartphone market in China is growing at an "extraordinary" rate. Market analysts

say that 2010 was a great year for the smartphone market in China, with total sales estimated at 30 million units. Another market report says that China was the world's second largest smart phone market in the second quarter of 2010 and for the sixth consecutive quarter, with shipments of 6.9 million units representing 11 percent of the worldwide total.

Tavis McCourt, analyst at Morgan Keegan, says that the bigger picture is that the Chinese market for smartphones is exploding, but is at a much earlier stage of development than North America or Western Europe. This offers major growth opportunity for smartphone providers.

In comparison to the Asian markets, smartphones form around 62 percent of the Australian phone market, according to a recent report by IDC. The report expects 92 percent of app phones to be smartphones by 2015 in Australia.

Following the global trend, Android has started to drive the smartphone market in the Asia-Pacific region also, and it continues to gobble-up market share from its competitors such as Apple, Nokia, and more. Ovum says that the Android platform will be by far the most used system because it is used in so many devices. Adam Leach, principle analyst at Ovum, says that Android's success "is being driven by the sheer number of hardware vendors supporting it at both the high and low ends of the market."

Prior to 2010, the Chinese smartphone market was ruled largely by Nokia's Symbian OS and Windows Mobile, as per a marketing research data. McCourt says that Android now represents nearly 50 percent

of smartphone volume in the country – up from zero last year. Additionally, in Australia also, Android will overtake Symbian to become the number one smartphone OS within the next few months, and its market share will stabilize around 40 percent, IDC report predicts.

"The story in the Asia Pacific region is similarly optimistic around Android," notes Senior Analyst TY Lau, adding that Android devices are gaining good traction in markets such as mainland China and South Korea, with growing numbers of consumers wanting more sophisticated smart phones.

Despite the market being in the boom stage, there are a number of challenges that the companies offering smartphones have to understand and overcome in the Asian region to tap these opportunities and flourish. They may find that the marketing and product strategies that work in North American and European countries are obsolete when it comes to the Asian region. "It would be unwise to expect the smartphone market to develop along the same lines as it did in Europe or North America," Schreck says. The companies have to divert from their usual scheme, and develop and offer products and services while keeping in mind the local sentiments and policies.

Motorola had to change the default search engine from Google to Microsoft on its Android smartphones in China due to the ongoing dispute between the Chinese Government and Google. For the market in Japan, Apple had to include NFC on its iPhone to boost its sales. Schreck says that these companies have shown the need to adapt products to compete in these mar-

kets. Additionally in the Asian smartphone market, the well-known global brands are facing stiff competition from Asian brands offered by companies such as Huawei, ZTE, HTC, and Acer. Another problem area is the well-established grey market for mobile handsets. Schreck says that this grey market, which is much more established in Asia than in western markets, gives consumers viable alternatives to more conventional handset purchasing methods. Also, companies are increasingly facing rising virus, Trojan and malware attacks.

"These challenges are opening up a booming smartphone market to players who have had trouble competing with entrenched competitors in developed western markets," Schreck says.

InMob, an independent mobile ad network, notes that consumers are rapidly transitioning to smart mobile devices as a primary means of consuming digital content. In the month of January, 2011, smartphones represented 23 percent of all mobile ad impressions in the Asia Pacific region. Additionally, overall growth in the market shows smartphones, at 69 percent, outpacing advanced phones, which have seen a 27 percent growth rate. Atul Satija, vice president and managing director for Asia Pacific at InMobi, says that increasing mobile usage and smartphone penetration will continue to drive the explosive growth in the Asia Pacific mobile advertising market.

Smartphone is the future, and Asia-Pacific region is where it's going to see hyper-demand in the near future. 

Unifying Our Personal and Professional Lives Into One: The Social Transparency Revolution

BY KEVIN KANE

At some point during the evolution of modern capitalism, utilitarianism took much of the humanity out of our work culture.

We now live in a corporate culture where we are discouraged from introducing our personal lives to our co-workers and superiors, whether this is because we can be discriminated against for choices in our personal lives, or because it can be advantageous for us to befriend those who can promote us. Thus, we live in a world where the term professionalism refers to a certain way of behavior that is distinctly different from the way we behave naturally in our personal lives. In other words, we have become professional actors in the work place. Internet social networking however, is now helping to change this.

The New Norm in Business

Although many societies view it as taboo to mix our professional lives with our personal ones, internet social networking bends the rules, insofar as social networking sites such as Facebook allow people to overcome the feelings of guilt associated with befriend professionals such as competitor company executives or senior employees who are otherwise off limits from a more personal relationship. One of the reasons is simple; it's nearly impossible to regulate personal relationships on the internet, and so humans do what comes natural to them in this social milieu: social engagement.

Consider my own story. Over the past two years, I conducted an experiment and sought to merge my professional contacts with my personal ones, living a life with no division between my online relationships and those who I do business with in life. I am 31 years old, and I 'befriended' ambassadors, CEOs, and anyone else with whom I managed to have at least one personal conversation with. I did not allow professionalism to prevent me from the natural desire as a human to meet people and get to know them. I now have more than 500 friends made up of family, former classmates, investment partners, corporate executives, foreign government officials, etc. I crossed the so-called line and sought to make all of them a part of my personal life, whether it benefits me professionally or not. This experiment is ongoing, but so far it is suggesting to me that the future is to be an era based on social transparency and the erosion of our existing division between personal and professional lives.

A New Era of Internet Social Transparency

I now befriend people through the internet that I will never see in person, but whose personal and professional lives are transparent enough on social sites like Facebook to make me feel as though I know them personally. This type of opportunity to develop personal relations with people on the other side of the world, however, is not open to everyone; only those who are transparent enough to merge their personal lives with their professional ones.

I can now state that I have benefited tremendously from such personal transparency. From invitations to publish in major news outlets, co-author papers, and attend international conferences, to making investment introductions and accessing other

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New Technology Behind Early Disaster Warning Systems

BY SHAMILA JANAKIRAMAN

The March 11th Earthquake and Tsunami in Japan unleashed unestimable damage to the human psyche with the death and destruction it left along its path.

As a technologically advanced nation, even Japan could not mitigate the disaster in spite of the great walls it had constructed as tsunami barriers and the hi-tech sensory equipment it had deployed.

This brings to the fore the importance of an effective early warning system rather than a protecting system, as strong shelters prove insufficient when nature strikes with fury.

Towards the end of March of this year, the Science and Technology Ministry of Thailand announced plans to put in place locally-developed weather forecast and disaster warning devices. According to the Science and Technology Minister, the National Science and Technology Development Agency will provide devices to alert and warn residents in disaster-prone areas. The system will also send alert messages via the Internet and the cellular phone network. Implementing such proactive measures is the need of the hour, say local experts.

In the United States, Verizon Wireless Network, a major service provider, announced well beforehand that it had prepared its voice and 3G network to ensure service even during the spring flood season due in April in eastern North Dakota and Northwestern Minnesota. Verizon was ready with 350 phones for emergency personnel, including the North Dakota National Guard and the Minnesota National Guard. Also phones and 3G USB modems were deployed for emergency responders, along with other measures. Here the early warning system kept the region in preparedness for potential natural disaster.

When disaster strikes people have to hide or run to escape. Past warning systems consisted of simple sirens, bells and blaring loud speakers. But nowadays, technological advancements have enabled sophisticated systems which provide advanced warnings of typhoons, earthquakes, lightning storms, tsunami, and local flooding, in addition to warning against manmade disasters like chemical or biological accidents, spills or fires. The efficacy of a disaster warning system is gauged by the time period it offers for making effective human or automated responses that can save lives and help protect property.

Such systems incorporate detection technology which identifies and confirms in real time the location, speed, and magnitude of disasters and then sends data to a central processing site for analysis and to issue warnings. Remote sensing detectors in-

Sirens and emergency radios serve as audible warning systems. These devices are always kept on and are activated when required.

clude land-based Doppler radars, lightning sensors, tri-axial accelerometers (seismometers), rainfall monitoring sensors, ocean buoys and other sensing devices.

In the analysis phase, the information gathered from all detection and sensing sources in the region are received and studied to decipher the nature and degree of an impending disaster, while also locating the area that will be affected, areas to be warned and the media to be used.

A computerized system analyses the signals and activates the transmitter, which issues warning alert instructions to hubs in the regions that fall in the immediate danger zone as predicted by the disaster warning system in order to avoid panic in other areas. Real time geographic location determination devices pinpoint the latitude and longitude of an area that may be affected to issue localized warnings.

Sirens and emergency radios serve as audible warning systems. These devices are always kept on and are activated when required. Warning signals can be activated on televisions, pagers, message watches and mobile phones. These devices have embedded microprocessor receivers and controllers that are pre-programmed to do automated functions like shutting down computer systems or fuel supply systems, and for operating emergency exits, lighting systems, power supplies, transportation systems and electric transmission systems.

The technology can enable automatic opening of entrances to emergency shelters in office buildings and public facilities, activation of traffic warning signals at bridges and intersections, ensuring that computer systems do not lose data, or also activating emergency lighting and generators at public safety facilities and health care facilities, among other functions.

Point-to-multipoint wireless data communications and battery-operated devices at receiving points make the system effective, as land line phones and electric power supply are sure to get disrupted.

These early warnings are sure to improve response times and provide a "head start" for emergency response personnel, including the fire brigade, police department and ambulance operators. The rapid deployment of first responders will help reduce loss of life and property and enhance rescue efforts as response times are reduced. Required emergency actions such as moving the population can thus be initiated well before the disaster actually strikes. [A-P](#)

South Korea Getting Smart with Electricity

BY JIHWAN KIM

South Korea has been testing a smart electricity grid technology on Jeju Island for the past few years, and the results have been promising, encouraging future investment.

In the face of a changing energy market, the global challenges of climate change, and recent natural disasters, this particular flavor of smart grid is looking more appealing than ever.

The smart grid test started in a small village on Jeju Island in 2009. The island has an independent energy system which not connected to the mainland, making it an ideal location to test the smart grid system. In theory, a smart grid uses modern computing infrastructure to enable two-way communications between suppliers and consumers of electricity. Electricity suppliers provide each consumer with real-time electricity prices and calculate the amount of consumption so that consumers can make informed decisions and cut back on their electricity bills. This process increases price elasticity. In addition, suppliers can monitor and respond to variations in demand for electricity in real time. The grid also encourages wide use of renewable energy sources. Customers who own renewable electricity generation facilities like solar cells can sell their left-over electricity back to electricity suppliers. However, the Korean government needed to move beyond theory and test the system in the real world.

Although there were some concerns and objections to the test, especially from older consumers, the result of the test surprised and delighted almost everyone. For example, a monthly electricity bill surprised one male resident, aged at 65 years, living in the demonstration district. Before the smart grid was operationalized, he paid approximately US\$465 per month for his electricity bills, but after the grid was running, his bill for two months was only US\$2. Electricity supplied by a solar power unit installed on his roof generated the savings as it produced electricity for his own use of home appliances. In fact, he produced more electricity than his family needed and he saw his electricity meter run backwards. He sold his left-over electricity to the Korean Power Corporation. An in-house display panel for controlling real-time energy enabled him to take advantage of the smart grid and come out ahead.

Such positive results have encouraged the Korean government to sink more money into this type of development. By 2030, the government will have invested US\$2.5 billion and the overall industry will have spent US\$22.8 billion. Of these investments, US\$6.5 billion will turn the present electric-



ity networks into a smart grid and develop related technologies, including large-scale electricity storage devices and a network security system. The remaining US\$18.8 billion will be poured into building an electricity and IT infrastructure, smart remote meter reading, and electricity-charging points.

The economic benefit accruing to the country from the establishment of the nationwide smart grid by 2030 will be substantial. According to projections of the Korean government, the industry will create 50,000 jobs and produce approximately US\$680 billion more while cutting the emission of greenhouse gases by 150 million tons. Also, the country will save about US\$280 billion in energy imports and US\$30 billion in expanding generation capacity.

This is very significant when viewed in light of the changing global energy economy. In the last decade, the world experienced a surge in energy prices, acceleration in energy demand, and global challenges to climate change. According to the US Energy Information Administration, global energy demand will increase by 1.4 percent per year up to at least 2035, the last year in their projections. Oil and other liquid fuel prices will remain high, and renewable energy sources will increase as a result. While China and India will choose to consume coal rather than liquid fuels, other countries will have to either rely on liquid fuel or renewable resources. So greater electricity efficiency is going to be one of the top issues to deal with for the next 25-plus years.

The recent tragedy in Japan also makes a

smart electricity grid look more appealing. Japan's Fukushima Daiichi nuclear plant was damaged from this double disaster, leaving the world with fears about radiation leaking from it. The nuclear generators at Fukushima can no longer generate electricity, and as a result, the inevitable electricity outages will constrain Japanese industrial production activities. This situation points to the need for a fundamental modification in Japan's strategy to meet its abatement goal of greenhouse gas emissions under the Kyoto Protocol through expansion of nuclear generation. The failure at the Fukushima nuclear plant casts doubt on the safety of nuclear plants, which, along with the need for more efficient use of electricity, brings the smart grid to the forefront as a viable alternative.

The Korean stock market has already been revaluing relevant firms since the quake and this year is expected to be a turning point for the smart grid. Korea is accelerating its pace toward dominating the world's smart grid market by legislating regulations that encourage smart grid use and reinforce collaborations with foreign government agencies in charge of their electricity sectors.

Smart grid growth has been initiated for different reasons in many countries, and massive economic and technological impacts of the smart grid on the electronics, automobile, and IT industries are now emerging worldwide. The electricity industry is now facing the greatest transformational challenge in its history. [A-P](#)



Karl Daniels | Dreamstime.com

Magic in Mumbai: India the First Hosts To Win World Cup in Cricket

BY JAI C.S.

India's cup of joy spilled over the streets of Mumbai when Mahendra Singh Dhoni hit his trademark square cut in the finals and India saw its first win of the World Cup in 28 years. It was a box-office hit on home soil.

India was en route to chasing down a total of 274 which was the highest ever in a final. The wait was over and a new legend was born – Dhoni and his team warriors now stand atop the world as India became the third country after Australia and the West Indies to win the World Cup more than once. After waiting an entire generation, India was once again crowned world champions as they scored 277/4 to beat Sri Lanka (274/6) with 10 balls to spare. “This was the goal and I am happy we achieved it,” said Dhoni, lifting the trophy in celebration.

Infosys Chief Mentor Narayana Murthy said in a statement that talent wins games but when it comes to winning championships, it is teamwork that matters, and India is quoted to have demonstrated this in its victory in the World Cup.

Countless cricket fans from around the world turned commentators as the World Cup Final unfolded at Wankhede Stadium in Mumbai. Brands like Pepsi with slogans like “Change the Game” and Nike’s “Bleed Blue” have really contributed to the historic win of India. Master blaster Sachin Tendulkar said it was unbelievable victory. “Reaching the finals and that too in Mumbai was exciting but winning in the finals is like the ultimate dream coming true; we can only thank god for this,” said Tendulkar in a report.

It was a rare spectacle as politicians, top business men, film fraternities, bureaucrats, VIPs including the President of India, Governor and Chief Minister of Maharashtra, ICC president Sharad Pawar, Mukesh Ambani of Reliance Industries, etc., were sharing the same dais at Wankhede stadium. Media persons were clicking their camera from all possible angles to capture images of the victorious team, which was on the road to riches soon after the cup came to Dhoni’s hand. As India celebrated, the congress president Sonia Gandhi quietly slipped out of her 10 Janpath residence and went for a round of the city – a rare occasion.

Cricket has for a long time been India’s most popular sport. The India national cricket team won the 1983 Cricket World Cup, also known as the Prudential Cup, where eight countries participated in the event. The preliminary matches were played

in two groups of four teams each, and each country played the others in its group twice. The top two teams in each group qualified for the semi-finals. Kapil Dev was the Captain at that time and he gloriously lifted the cup, making all of India proud. Not only this, India also proved victorious during the 2007 ICC World Twenty20, and it shared the 2002 ICC Champions Trophy with Sri Lanka, as well as its victory in the 2011 Cricket World Cup. Domestic competition wins include the Ranji Trophy, the Duleep Trophy, the Deodhar Trophy, the Irani Trophy and the Challenger Series. In addition, BCCI conducts the Indian Premier League, a Twenty20 competition.

The 2011 ICC Cricket World Cup was the tenth Cricket World Cup. It was played in India, Sri Lanka, and Bangladesh. All matches in the World Cup were accorded One Day International status, with 50 overs. Fourteen national cricket teams competed in the tournament, including ten full members and four associate members. The World Cup took place between February and April 2011, with the first match played on the 19th of February. The opening ceremony was held on February 17th at Bangabandhu National Stadium, Dhaka, Bangladesh, two days before the start of the tournament, with the final on April 2nd between India and Sri Lanka at Wankhede Stadium, Mumbai. In the final between India and Sri Lanka, there was a mix-up at the toss. Due to the loud

crowd noise, match referee Jeff Crowe could not hear the Sri Lankan captain Kumar Sangakkara’s call as the coin was tossed by the Indian captain MS Dhoni and as a result the toss had to be redone – a virtually unheard of event, especially on a stage as big as the World Cup Final. The next time, the call was heads and Sangakkara won the toss and decided to bat first.

Frenzy mania among fans and viewers increased which was reflected even on social networking sites like Facebook, Twitter, and YouTube. Cricket portals like Yahoo! Cricket, Cricinfo and Cricketnext made use of the opportunities offered by the event with their spontaneous coverage through score updates, ball-by-ball commentary, videos, live feeds, cricket contests, expert columns, match summaries, and so on.

The 2011 cricket season was also remarkably powered by various interactive mobile applications based on cricket. Customers were keen on catching the World Cup on their mobiles, and the first week of the ICC World Cup saw a huge rise in the sale of cricket-based applications. One of the reports indicated that nearly 10 percent of smartphone owners downloaded sports-based applications. Several companies launched cricket theme-based games to cash in on major traffic. The launch of Cricket Power, CricEx, Cricket Manger, Super Fielder, etc., also bought cricket mania to its pinnacle.

New business opportunities were flooding in for the corporate world to enhance consumer interactions with the help of cricket based apps which have compatibility with major devices like iPhone, Blackberry and Android-based phones. Similarly, Nokia also has come up with new apps to win the hearts of cricket lovers. On the model Nokia N8 it has introduced the ESPN sports widget app which enabled users to access all the live news feed, video clips, scores and other cricket-related information. Not only this, Channel 2 Group, a Dubai-based company that signed the radio broadcasts rights for the ICC World Cup, had also announced the launch of the Internet radio channel Crick-etfreeq.com, which offered live commentary of all World Cup matches followed by the post-match analysis.

ESPN STAR punched in various technologies to enhance the sporting experience of the fans. It partnered with Cooliris to provide them with real-time exclusive photo stream of never before seen behind-the-camera coverage of the cricketing action, using Liveshare by Cooliris. The Liveshare application allowed the fans to experience matches at major venues and share the video feed with their friends via espnstar.com/cwcliveshare, Facebook, Twitter and e-mail, or even to create their own streams with

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people’s corporate networks, all were made possible through professional contacts whom I have never met, but came to know well through social networking sites. In a future where it’s easy to imagine that commerce will occur so rapidly that those who insist on meeting in person will necessarily fall behind, we must see that it is those who are able to establish personally engaged professional connections through social networking sites who will thrive, while those who are not will be the ones to fall far behind.



Subhrajyoti | Dreamstime.com

the Liveshare application.

Zapak, an online gaming company which has the rights to distribute the game called Cricket Power, reportedly had traffic go double after the game went live.

This year cricket World Cup was not just another sporting event. After the FIFA World Cup and Olympics, it was in fact the third most viewed sporting event. Exciting offers and services were raining down

on this cricket season, adding an element of fantasy to all cricket fans, and India saw its captain Mahendra Singh Dhoni scoring an unbeaten 91 in the final. Mahendra was later judged the man of the match. India’s Yuvraj Singh was declared the man of the tournament. Forty three days of World Cup matches were made memorable not only to fans but also to all those technology companies who pitched in their mind. [A-P](#)

The Re-Birth of Humanism in the Workplace

I believe that my personal experiment is a microcosm of what will happen to the rest of the world within the next 10 to 20 years. In this near future, professional and personal lives will merge into one transparent lens for everyone to see: who we are, what kind of friends we select, how we perform at work, or what kind of music we like. We are to live in a world characterized as an ‘Era of Social Transparency.’

Human relations will take precedence in

this new era. We will no longer pride ourselves on separating professional from personal lives. Instead, progressive companies will reward employees for pursuing the opposite, racing to establish human and personal relations around the world as a means to later engage in commerce and career advancement. In such a world where our personal and professional lives are made public through internet social networking, we will return to a business culture closer to what comes natural: being socially sincere humans at all times, no matter what the social context. [A-P](#)



Park Jae Hyeong

BY STAFF REPORTER

Park Jae Hyeong, CEO of GRobotics, is one of Korea's rising talents in the robotics industry. In 2006, at the age of 11, Park established his robot research organization 'Robian,' which became the basis of GRobotics three years after its foundation. GRobotics provides research in the field of hybrid robots, humanoid robots and pilotless aircraft. Along with research and experimental projects, the company also provides website solutions services and personal iOS application manufacturing services to customers. Park has experience studying at Waseda University, at the Honda ASIMO Research Center in Japan, and he is currently enrolled in the KAIST Center for Creative Entrepreneurship (CCE) program to help develop GRobotics as a first-rate company in the robot technology industry.

Below are excerpts from a recent interview with Park Jae Hyeong.



What is the origin and meaning of GRobotics?

GRobotics was founded three years after I established my robot research organization 'Robian', in 2006. Up until the end of 2010, our company was performing under the name of Godeungeo Robotics. Godeungeo (which means mackerel in Korean) is a common and popular fish here, so I used this word as our company name, hoping to be a significant provider of robots and state-of-the-art robotic technology to the broad public. Since the word godeungeo was quite difficult for foreigners to spell and pronounce, our company eventually changed its name to GRobotics.

Can you explain to us the key philosophy that GRobotics pursues?

The research and experimental results of GRobotics will be open to the public free of charge in 2013, except for our work which has received patents. The reason we provide our studies to the public is based on our company's fundamental philosophy: 'Technology For All.' Through this philosophy we hope to help realize the generalization of advanced technology.

When did you first become interested in robots?

I was fascinated by robots by the time I enrolled in elementary school. When I was 9 years old, I started studying about computers and robots by going through the vast amount of information available on Google.

During my first year in middle school, I won the national robot competition. In 2006, at the time I established my own company, I was selected as one of the three talented students in the field of robots on a television program broadcast in Korea. As a result, I received the chance to participate in a program at Honda ASIMO Research Center and Waseda University in Japan. This experience became a catalyst for my independent robot research.

Can you tell me about the hybrid robot 'Hanmaeum'?

In 2010, our company created our first hybrid robot 'Hanmaeum.' The purpose of this research was to develop 'Hybrid Walking.' 'Hybrid Walking' is a new walking method that is a fusion of the advantages of four-legged walking and wheel movement. Current robots function by a one-way movement, so the technology of Hanmaeum — by which a robot can climb stairs, measuring height via its position-switching algorithm — is very popular among foreign technology communities and Korean community members.

What is the Jorim Project?

The Jorim Project is a low center of gravity humanoid robot project, which has been initiated to design low center of gravity robots and to study the use of these robots in real life. In particular, the Tongjorim-SAER-AM robot we developed is a specialized robot that has entertainment features accompanying an iPod Dock function.

Your company also provides website solutions and iOS applications. Tell me more about these services.

Our company created GWeb, a website solution for small-sized organizations. The product does not use Active-X and abides by the standard website protocol that is not realized in Korea. So the speed and reaction of our website service helps users who are in an environment with slow internet connection. GRobotics also provides personal iOS application creation services. We create applications that are needed for personal work, and we have our Flight Calculator that was created as an experimental project for customers.

What are the future plans for GRobotics?

GRobotics will be working on cloud computing — a new industry now coming into the limelight — flexible display, android robots, and pilotless aircraft. We will also continue to develop and upgrade our former software and robots.

Is there any other information you would like to share with our readers?

In Korea, resources and reputation are very scarce for young inventors like me. It would be a tremendous help if the society gives more attention to young business owners. For example, when a young business owner visits the tax office to make a business registration certificate, he or she has to go through an exhaustive and complex process such as numerous individual verifications via phone calls. If Koreans, including your readers, give more attention to young entrepreneurs, I am sure the next Marc Zuckerberg or Steve Jobs will come from Korea in the near future.



BAREFOOT ORIENTED COMFORTABLE WALKING SHOES

SNPE BODY THERAPY SHOES

BIOMECHANICAL SYSTEM - MAGNETIC CUSHION, ORTHOLITE



ORTHOLITE SYSTEM



- PROTECTING JOINT, CORRECTING POSTURE AND STIMULATING METABOLISM, ABSORBING SHOCK ON JOINT
- BALANCING BODY BY SUPPORTING ARCH

SNPE BODY THERAPY SHOES
CREATED BY COMBINATION OF ORIGINATOR OF
RIGHT POSTURE EXERCISE,
PROFESSOR CHOI AND WORLD FIRST NEW CONCEPT
PATENT TECHNOLOGY "MAGNETIC CUSHION"
HELPS DIET AS WELL AS CORRECTING POSTURE



Cushion function based on magnetic polarity helps absorbing shock on feet as well as protecting joint and correcting posture by maximizing repulsive power.

It also increase acceleration function on indraft of air pumping function based on pressing system

Biomechanical insole supporting arch to balance your body.

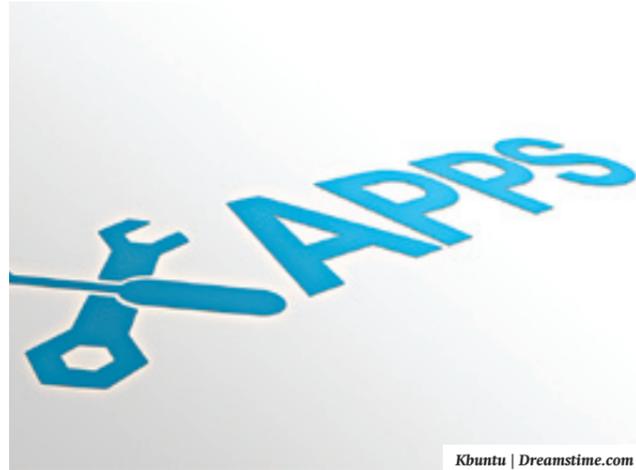
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Scouring the World in 15 Minutes

BY SON-U MICHAEL PAIK
MANAGING EDITOR

As I'm writing this in Hanoi, in the business center of my local hotel, I'm grateful for the various time-saving tools that have made my work easier, and more efficient, with regard to time spent on tasks such as news, trend and data review.



Kbuntu | Dreamstime.com

While I've recently opted out of a couple of social media platforms (FaceBook and LinkedIn), I have made extensive use of other apps, especially on my phone, which I'd like to introduce to you today.

As for FaceBook and LinkedIn, I'd used both for about a year, but I'd found that they actually took up more time than they saved, and that their efficacy, with respect to supporting my work in consulting as well as networking, were minimal. What I did use them for, actually, was more prosaic: FaceBook to keep tabs on my son, and LinkedIn to keep up with old contacts. I've gone back to an analog mode of simply using the phone for the former, and email for the latter, which seems to work just as well.

For the aforementioned news, trend and data review, I of course use the internet via both desktop and laptop terminals when they're available, but while traveling, I simply rely on my phone, which is an older iPhone with an extended battery "wrap" that ensures that it lasts a full day of heavy use or a couple, sometimes three, days of lighter use between charges.

For news, there are many "channels" and aggregating services available, and I use the BBC News app, along with Google, for general news. I've also made it a point to find and bookmark the local English-language paper when it's available on the web, for future reference and review. Here in Hanoi, for example, it's <http://vietnamnews.vn.net.vn/> for the national English daily.

For trends, in my areas of interest, I use a couple of apps: InstaPaper and StumbleUpon. The first streams to my phone for offline review articles from a vast range of sources, ranging from Wired and The New York Times Magazine to Playboy, and on the last, yes, it's now clear that I'm simply reading the articles.

StumbleUpon is a bit different, in that it recommends websites and other online content (such as videos on YouTube) to me rather than articles. It's a quick "learner" in that it's very responsive to my feedback (thumbs-up or down) on recommendations, and it refines its search parameters so that the recommendations tend to be spot-on with my interests, which cover a wide range, from design to Greek & Roman history through technology, fashion and collecting,

For trends, in my areas of interest, I use a couple of apps: **InstaPaper** and **StumbleUpon**. The first streams to my phone for offline review articles from a vast range of sources, ranging from **Wired** and **The New York Times Magazine** to **Playboy**, and on the last, yes, it's now clear that I'm simply reading the articles.

as well as Korea-related news and shipbuilding industry information. I sometimes use this for the mentorship student recommendations as well, but it's mostly a time-saver for web-surfing for me.

If I find a site that's particularly interesting, I sometimes download the whole thing to my phone for offline review, via SiteSucker, a wonderful program that transfers an entire website to my phone in a relatively short period of time, depending, of course, on the breadth and depth of its content. I also use this for data-heavy due diligence projects, such as for particular company investigations, and it's particularly helpful for this, as I literally have much of their public information (including PDFs of their annual reports, in many cases) at my fingertips, whether I'm online or not.

Finally, I have to give yet another recommendation to Wikipedia, which I've downloaded in its entirety to my phone, not via SiteSucker, but rather via a dedicated app called Encyclopedia. This is one of the New York Times' seven must-have offline apps, and I'm a fan. I use it for background research, orientation to a new subject, or simply when I'm bored, and the beauty of it is that it's available all the time, whether or not I have access to wifi or a 3G network, since it's already been downloaded to my phone.

Many of these apps work while I'm simultaneously listening my favorite public radio stations via TuneIn Radio, which in its paid version also enables recording of one's favorite programs. I listen to stations from across the globe, but tend to focus on channels that I especially used to enjoy

when I was living in Palo Alto and New York.

It's a wonderful world, really, when one stops to think for a minute about all of the things that are available to us via these technologies. I find my life to be richer for it, as long as I control my time spent on the various devices that make this possible. For me, fifteen minutes or so a day (not counting specific research or data-review projects) is often enough, and the beauty of it is that this fifteen minutes is mostly anywhere and anytime. It helps to have wifi or 3G access, but it's not absolutely necessary, as mentioned above.

This is not a tech column, but I no longer view these apps and my phone (or the internet via other devices) as tech per se, but rather as a digital world that I can explore to expand my own horizons, at my discretion and convenience. Combined with an analog life of work, travel, friendships and family (in reverse order), I find that there's a lot that's new & notable out there, as well as in the palm of my hand. 

Welcome to Naminara Republic
Nami Island, Korea



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Innominds

US Address

2055 Junction Avenue, Suite 122,
San Jose, CA 95131
Phone: 408-434-MIND
Fax: 408-904-5820

India Address

#8-2-334, SDE Serene Chambers
1st Floor, Road No. 7
Banjara Hills
Hyderabad - 500 034
Phone: +91-40-66126300
Fax: +91-40-66126330