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Globalization of Korean IT Companies: Opportunities and Strategies

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Abstract

The main focus of this paper is to analyze the current IT industry and to provide relevant strategies for Korean IT companies (such as Samsung SDS and LG CNS et al.,) which want to go global. This paper first addresses an overview of the IT Industry. This research examines the major players in the IT industry, the critical success factors (CSFs), as well as the opportunities that exist in the industry. This study also analyzes Indian IT sector, finding out some important factors that have had an impact on their success in going global; then, overview of the Korean IT sector and assessment of Korea IT companies - particularly Samsung SDS and LG CNS - are provided and discussed. Finally, the study suggests a couple of relevant strategies to Korea IT companies for exploiting the opportunities for globalizing their market. Some practical implications of the study findings as well as future directions for the companies are also discussed.

Keywords

IT service, globalization, e-Health, Biometric Technology, e-government, Wireless Technology

1. Introduction

Recently, the world economy has started to begin to recover from one of the worst economic crises in decades. By globalization, Information Technology (IT) is bound to play an increasingly prominent role as a key enabler of renewed and sustainable growth, given that it has become an essential element of the infrastructure underpinning competitive economies. Information Technology will continue spreading its revolutionary power to modernize economies and societies and improve living conditions and opportunities around the world. IT performance will remain crucial not only for developed countries (USA, European Union, Japan, Canada, etc.) for sustaining and enhancing their innovative potential and long-term competitiveness, but also for middle-income and developing countries (Brazil, Russia, India,

China etc.) in fostering structural transformations, increasing efficiency as well as reducing the digital, economic, and social divides within their territories and vis-à-vis more advanced economies.

Corporate strategy is the pattern of decisions in a company that determines and reveals its objectives, purpose, or goals, produces the principal policies and plans for achieving those goals, and defines the range of business the company is to pursue, the kind of economic and human organization it is, or intends to be, and the nature of economic and non-economic contribution it intends to make to its shareholders, employees, customers and communities. (Competition in Global Industries, 1986)

If Information Technology (IT) or Information and Communication Technologies (ICT) play a central role in ensuring economic sustainability, it can and must play an equally central role in promoting environmental and social sustainability, both as an industry and as a key element of enabling infrastructure.

Although Korean IT companies have excellent infrastructure and very good domestic market, on the international scene very little mention is made of them. They are not listed in the top 10 of the global IT companies in the world and even though they have branches and subsidiaries around the world, it is difficult to ascertain the level of their activities in these countries. Korean IT companies seem to be merely acting as back offices for their parent companies rather than as established entities on the international scene. We believe that in order to be truly global, these companies should look for a future that is not solely dependent on their parent companies.

The main focus of our project will be suggesting strategies to Korean IT companies (Samsung SDS and LG CNS et al.,) in their quest to go global. We will do this following a thorough analysis of the IT sector, particularly the Critical/key success factors (CSFs), and the opportunities that exist in the industry. We will also base our recommendations on the strengths of the Korean IT companies.

2. IT World Growth and Forecast

Major research questions of this study are as follows:

1. What are the Critical/Key Success Factors (CSFs) in the IT Industry?
2. What are the core capabilities/strengths of Korean IT companies?
3. How Korean IT companies can exploit these opportunities based on their strengths/capabilities and become global?
4. What are the obstacles in the process of globalization? How Korean companies can check these?

IT includes all activities supporting the tasks needed from customers' information system plan (such as IT services, IT consulting, systems integration (SI), IT outsourcing and business process

outsourcing) to deployment and outsourced operation. It includes also telecommunications, electronics and components, IT equipment, communication equipment etc.

Worldwide enterprise IT spending is forecast to reach $2.5 trillion in 2011, a 3.1 percent increase from 2010 spending of $2.4 trillion, according to Gartner Inc. (the world's leading information technology research and advisory company). Over the next five years, enterprise IT spending will represent a period of timid and at times lackluster growth with spending totaling $2.8 trillion in 2014 *(see figure 1)*.

At companies of all sizes, IT spending is one of the biggest line items in the budget. Large enterprises typically spend between 1 percent and 10 percent of their revenues on IT, depending on the industry. A large company's major IT systems typically include: Enterprise resource planning (ERP), Customer relation management (CRM), and internetworking and e-commerce platform.
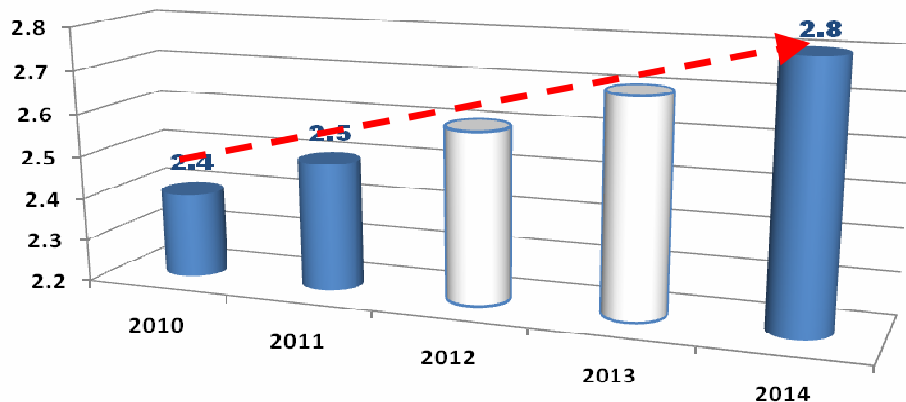

Figure1: World IT Forecast
Source: Gartner Inc. – www. gartner.com

In this draft, some Critical/key Success Factors (CSFs) in the IT industry include:

The fact to lead to success global IT corporate is as follows. First, In order to set a goal of global IT corporate and object, it is needed to clear values, vision, mission, object and goal. Second, it should be conformed the facts that have a great influence on speed to achieve a goal. This is a key point to develop global IT corporate speedy. Third, The key of global IT corporate`s successful management is innovation. The innovation is an ability to produce goods and service around the globe and to find the way to give customer faster, cheaper, better and easier. Forth, the ability to focus on the most important thing and finish is one of the essential factors of successful global IT corporate. The company which lack of ability to focus on only one aim and task consistently could not success. Fifth, the best distinction of successful global IT corporate might be constant movement. (Success factor of global IT enterprises, 2008)

3.   Overview of the Korean Information Technology Sector

Globally, South Korea is at the forefront of key developments that take place in the IT industry in terms of growth potential, trade, and added value. The country ranks among the top three in terms of the production and trade of IT equipment, and accounts for almost 6 percent of the world production and export volume in the industry. South Korea has also kept pace with the global competition in the IT industry due to continuous investments in technology innovation. The country's IT industry has become crucial for creating value in a knowledge-based economy and facilitating the production and distribution of information throughout the region. South Korea, which is one of the largest economies in Asia Pacific and among the top twenty in the world, is likely to be a major contributor to the growth of the IT industry in this region. Not only is South Korea a favorite investment destination for new and upcoming technologies, but it also houses some of the world's major corporations such as LG Electronics and Samsung.

Korea is one of the fastest growing IT markets globally with advanced infrastructure and active consumers that are early adopters of new technologies and products. ICT accounts for 17% of Korea's GDP and 40% of its total exports. Korea ranks among the top countries in the world for Internet usage. More than 75% of the population use the Internet. 93.8% of all Koreans use a mobile phone, and 92.8% of households subscribe to broadband Internet in 2008.

The Korean IT market consists of ICT services (facilities-based telecommunication, resale services, value-added services and broadcasting services), ICT equipment (telecommunication equipment, information equipment, broadcasting equipment and parts) and software/computing services (package software, computing services, digital content development and database services).

The total ICT market size was estimated at US$261 billion in 2008. ICT equipment accounted for 71% (U$187 billion) of this, followed by ICT services at 20% (U$53 billion), and software/computing services at 9% (U$22 billion).

South Korea plans to invest KRW400bn (US$341.1mn) by 2013 to help develop the domestic software industry. In March 2010, the government announced that it would spend US$27.4mn in 2010 on support for a software training program that will aim to produce more software entrepreneurs. The South Korean government's ambition is for South Korea to become a global software power, as well as a leading hardware producer.

3.1 SAMSUNG SDS overview

Samsung SDS was established in 1985, by consolidating IT systems of all Samsung subsidiaries. Since its foundation, Samsung SDS has provided comprehensive IT services and contributed to the growth of Samsung Group as a global company. Samsung SDS has established 17 overseas offices in ten countries starting with SDS America in 1997, and has set up eight data centers in six countries since its first data center in Gwacheon, Korea in 1992. Samsung SDS has achieved world best IT capabilities, acquiring ISO-9001 for the first time in the Korean IT industry, ITIL

(IT Infrastructure Library), and BS15000 (World Standard Certificate for IT Management. It mainly operates in 6 business areas which include consulting services (Business Strategy and Discrete IT and Network Consulting); technical services (Packaged and Customized Application Integration, Hardware and Software Implementation and Support, and IT Education); and outsourcing services (Business Process Outsourcing, Application and IT Infrastructure Outsourcing and Network Infrastructure Management). Samsung SDS together with LG CNS and SKC&C, are known as the **Big 3** IT companies of Korea.

3.2 LG CNS overview

LG CNS started in 1987 as STM. LG CNS originally existed as a joint venture between LG Group in Korea and EDS in the United States with 50/50 shares. The company was renamed "LG-EDS System" according to the Corporate Identity (CI) integration work of LG Group in 1995. LG Group then acquired the 50% share of EDS in 2001 and renamed the company "LG CNS", and that remains the official company name.

LG CNS (which stands for 'Consulting and Solutions') helps clients with IT challenges by providing comprehensive solutions from consulting to system deployment and operation. The company, as of 2009 has over 7,000 employees at its headquarters, 7 overseas subsidiary companies and 4 subsidiary companies around the world. LG CNS prides itself on its industry-specific knowledge, proven advanced IT technology experts and top service quality that enables it to "make people's lives more convenient, futuristic and enjoyable by driving the national and corporate information-oriented culture." This company is one of the top 3 IT companies in South Korea.

3.3 PYEONGHWA- IS overview

Established in 2006 as part of an effort to develop a total advanced information system, CMC nU (neuro-Ubiquitous), based on the Catholic faith, PYEONGHWA-IS Co. aims to standardize and share medical information among the Catholic Medical Center, Seoul Saint Mary's Hospital (due to open in 2009), and other hospitals currently under the control of the Catholic Medical Center (St. Mary's, Kangnam St. Mary's, Uijeongbu St. Mary's, Holy Family, St. Paul's, Incheon St. Mary's, St. Vincent's, and Daejeon St. Mary's). As an information and communication company, operate a total computer center, the Internet Data Center (IDC), integrating the computer systems of these hospitals. With the establishment of the medical information system, these hospitals are now operating the Electronic Medical Record (EMR) system, allowing them to cut costs and boost their operational efficiency. Furthermore, with the development of the management system, the Catholic Hospitals' Association and its member hospitals are now able to share medical information, and have improved their medical services by offering holistic, patient-oriented treatment.

4. Discussion and Suggestions for Going Global

4.1 Introduction

Based on our analysis of Korean IT companies we found that they had strengths in many areas in IT for example, smart city infrastructure, ERP, public administration and transportation. We found, however, that their approach toward globalization was lacking in some respects, mainly because of their dependence on their parent companies. We have therefore suggested a different approach to globalization for these companies, as well as some new markets and segments they can enter based on opportunities that currently exist.

4.2 Be Independent of their parent company

While analyzing the Korean IT companies we found that they are too dependent on their parent companies (e.g. Samsung SDS on Samsung Group) and most of their business is directly or indirectly related to their respective parent companies and affiliates. The IT companies appear to be just acting as a back office and IT support provider for their business groups. This overdependence is a very big hurdle in their development as a big IT company globally. Therefore, if the Korean IT companies want to be major players in the international IT market they should look for a future which is not dependent on their parent company. By this we do not mean that they should stop doing business with their parent companies, but what we are suggesting is to give equal emphasis to inside business(within the group) and outside business (different companies and project). They should develop a two way strategy, on one hand these companies can utilize the global reputation and capabilities of their parent company for growth and development and on the other hand they should try to get independent business and projects of different companies and government. So they can start by having the vision to become a "Global IT Company" on their own. Then based on this vision the organizational structure can be redrawn consisting of different business units which will oversee various service lines or domains.

4.3 Global mindset

After having the right vision and organizational structure, the next step toward globalization is to have a global mindset. Applying the *Geocentric* approach in the whole organization is not easy for Korean companies as their way of doing business is different. For Korean companies, the major obstacles to globalization are language and culture.

Language: Unlike India, a large percentage of the Korean population does not speak English. This presents a difficulty in communication which is a major obstacle for Korean IT companies.

Culture: Korea is a hierarchical society where seniority is very important. The culture plays a very important role in how companies do business. This is perhaps one of the main reasons why

most Korean companies employ an *Ethnocentric* staffing policy in which parent-company nationals fill all key management positions overseas. This is usually done in order to maintain a unified corporate culture, and to transfer core competencies to foreign operations. Many problems can arise with this approach however, among them resentment and lower productivity in host-country employees and cultural myopia – failure to understand cultural differences that may require different approaches to marketing and management.

Overcoming the obstacles: Employing the *Geocentric* approach to human resources can help to overcome the obstacles of both culture and language for Korean IT companies. The *Geocentric* approach uses the best people for key jobs throughout the organization, regardless of nationality. This will enable the firm to make the best use of human resources and it will also help to build strong culture and informal management networks. Since a total cultural break will be difficult for Korean IT companies, we recommend that Korean IT companies can start by employing some well qualified foreign professionals in key positions in the International division and overseas regional and branch offices. These professionals will bring new ideas and global prospective in the way of doing business, which we feel, is very necessary for Korean IT companies to identify and exploit business opportunities abroad. After successfully implementing this, overtime, applying a total *Geocentric* approach will become easier.

4.4 Suggested locations for regional offices

One driving force of competitiveness in the international arena of information technology (IT) is to open regional offices and manage regional business.

We have selected regional offices based on the competitive advantages of these countries such as:
- Regional positioning
- skilled labor force,
- language and population

Rationale for choosing these countries

India

Nowadays, it is unthinkable to talk about IT without mentioning India and its two big IT centers Bangalore and Hyderabad. Korean IT companies, especially the big 3 need to seize this opportunity by entering and opening their foreign R&D centers in India.
India has very good qualified IT engineers and the country ranks seventh among the world's top 15 technology outsourcing companies. India is also viewed as the second most favorable outsourcing destination after the United States. The country can be seen as an R&D center for Korean IT companies willing to expand globally.
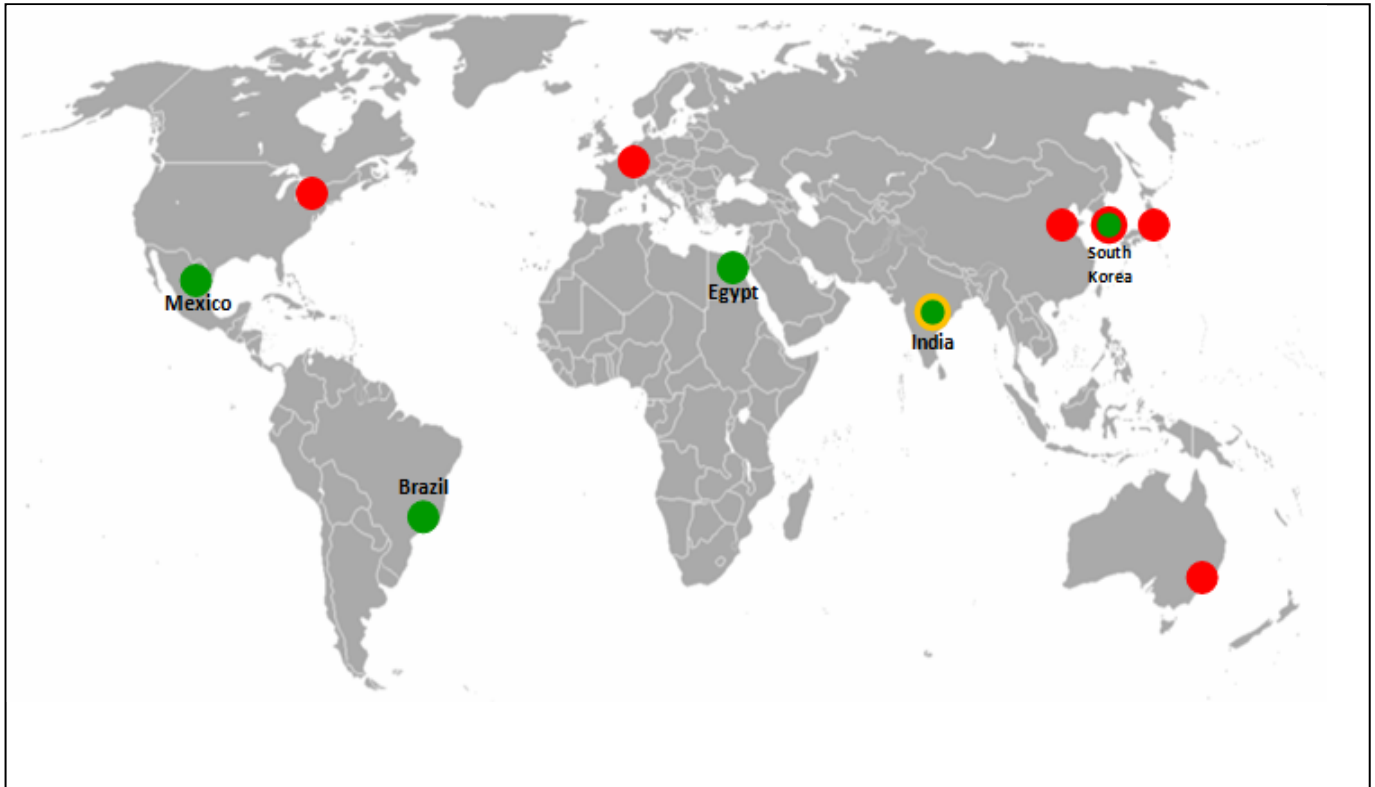
🔴   Major Existing IT concentration

🟢 Suggested IT locations for Korean companies

🟡 Suggested IT locations for Korean companies + R&D center

🔴 Headquarters of Korean IT companies + R&D center

Table 1: List of countries suggested to the Korean IT companies
Source: Central Intelligence Agency – www. Cia.gov

Egypt

The IT sector in Egypt has expanded rapidly in the past few years, with many start-ups selling outsourcing services to North America and Europe, operating with companies such as Microsoft, Oracle and other major corporations, as well as many small and medium enterprises (SME).
A new taxation law was implemented in 2005 to decrease corporate taxes from 40% to the current 20%, this makes it an attractive destination for FDI.
Establishing a regional office in Egypt will be the starting point for Korean IT companies to conquer majors markets in the Middle-East and North Africa. Egyptians are regarded as the specialist of this region. For instance there are more than two million Egyptians working mainly in Saudi Arabia and the Persian Gulf and some of them are filling keys positions in these

	Eligible Population	Languages	% language speakers	Total Language Speakers	Targeted Regions	Labor Force (Million)	Labor Force (Services)
India	1,188,859,000 (2010 estimate)	English	23.18%	275,577,516	Mostly English Speaking countries/ South and South-East Asia	467 (2009 est.)	34% (2009 est.)
Egypt	79,089,650 (2010 estimate)	Arabic	99%	78,298,753	Middle East	25.4 (2009 est.)	55% (2008 est.)
Mexico	111,211,789 (2009 estimate)	Spanish	97%	107,875,435	Latin America	46.2 (2009 est.)	62.9% (2005)
Brazil	191,796,000	Portuguese	99%	189,878,040	Brazil	101.7 (2009 est.)	68% (2008 est.)

countries. Also in terms of Arabic culture, opening a regional office there will facilitate the bidding process for Korean companies in upcoming huge IT projects

Mexico

In Mexico, there are almost half a million (451,000) students enrolled in electronics engineering programs with an additional 90,000 students graduating from electronics engineering and technical programs each year and Mexico had over half a million (580,000) certified IT professionals employed in 2007. Beside all these points highlighted, the country is a member of the North American Free Trade Agreement (NAFTA), signed in 1992 by the governments of the United States, Canada and Mexico. It can supervise also the Latin American region where most of the countries are Spanish-speaking.

Brazil

Brazil has one of the fastest growing technological industries among the BRIC countries. The IT Industry in Brazil is technologically advanced and technological research is largely carried out in public universities and research institutes. More than 73% of funding for basic research still comes from government sources

4.5 Diversification of Core Businesses by Entering New Segments

4.5.1 e-Health

A study conducted by the Canadian government in 2009 depicted the e-health spending across the world as follow:

- Canada (by hospitals) - $2.4 B *(Branham)*

- 2009 Projections: IT services – over $442.5 M ; IT hardware – over $422.7 M; IT software – over $283.8 M *(IDC Canada)*
- Canada (all users) - $4.8 B *(Frost & Sullivan)*
- Canada growth rate: 15% for the next 5 years *(Frost & Sullivan)*
- US e-Health market: $16.4 B growing at 13.4% per year *(BCC Research)*
- Top 100 e-health Firms e-health revenue 2009: over $20 B *(Health Informatics Magazine)*
- European e-Health spending: $5.0 B growing at 10% per year *(European e-Health Estimates 2007, Frost & Sullivan)*; 2009 Forecast $12.1 B *(IDC)*
- Worldwide e-Health spending: $53.2 B *(IDC)*

e-Health care is a new business segment in IT. Most developed countries are facing a decrease of their birth rates (*estimated 11 numbers of births per 1,000 population on average, as of 2009*) and increase of life expectancy (*over 77.5 years on average, as of 2009*).

Korean IT companies can follow the example of IBM, the world leader in the e-health care business, to target developed countries in offering e-health care solutions.

The e-health can encompass a range of services or systems that are at the edge of medicine/healthcare and information technology, including:
- Electronic health records: enabling the communication of patient data between different healthcare professionals (GPs, specialists etc.);
- Telemedicine: physical and psychological treatments at a distance;
- Consumer health informatics: use of electronic resources on medical topics by healthy individuals or patients;
- Health knowledge management;
- Virtual healthcare teams: consisting of healthcare professionals who collaborate and share information on patients through digital equipment;
- m-Health or m-Health: includes the use of mobile devices in collecting aggregate and patient level health data, providing healthcare information to practitioners, researchers, and patients, real-time monitoring of patient vitals, and direct provision of care (via mobile telemedicine);
- Health Information Systems: also often refer to software solutions for appointment scheduling, patient data management, work schedule management and other administrative tasks surrounding health.

Business & Market Drivers:
- Aging population with increased health needs
- Cost reduction & increased productivity
- Improved quality, safety, and error reduction
- Demands for performance measurement and other regulatory demands
- Regionalization (i.e. Regional Health Authorities)
- Electronic Health Record (EHR) expansion

- Digitization of healthcare processes
- An increased patient orientation
- Province-wide health communications networks

4.5.2   Biometric technology

World market size is as follows:
- World Market Size of Biometrics in 2009: 3,422M
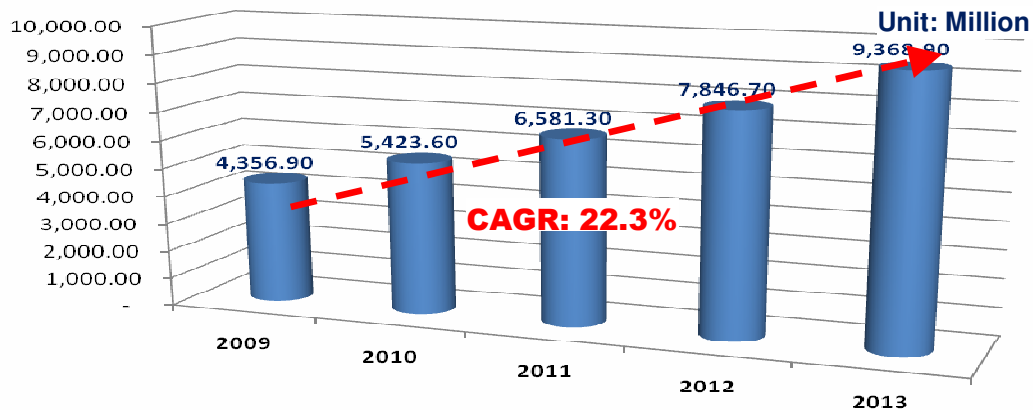- Compound Average Growth Rate(CAGR) : 22.3% (2009~2014)

Figure 2: Biometrics Market Trend
Source: IBG, Biometrics Market and Industry Report (2009-2014)

Market volume by technology:
- Fingerprint recognition including AFIS is dominant: 2/3 of biometric market
- Sustainable incremental estimation: face recognition and iris recognition
- Current: Market Size of Civil ID and Criminal ID is more than 60%
- Future: Market Size of Civil ID will make a big growth from39%(2009) to 51% (2014)

Since the 9.11 attacks, many countries have taken the resolution to converge all their people identification systems into biometric technology. This technology is booming in most developed and developing countries for security purposes especially.
Korean IT companies which do not have an active presence in developing countries in Africa, Latin America, Middle East and South-East Asia; can find a way to enter this business segment.
Recently in India, the government has planned to issue citizenship identification cards (and biometric passports) to its huge population of 1.2 billion to facilitate e-governance and security (Mumbai terror attacks 2008/11/26). This presents once more a very big opportunity but some companies like Infosys are trying to grab the highest market share via the bidding process.

This technology can also be the cornerstone to reduce fraud at polling stations and violence during elections in developing countries (especially in Africa). It can be a way also for Korean IT companies to promote democracy and eradicate conflicts.

4.5.3   e-Government

The concept of e-Government in this study covers all of the comfortable, transparent, and cheap interaction between government and citizens (G2C – government to citizens), government and business enterprises (G2B –government to business enterprises) and relationship between governments (G2G – inter-agency relationship).

- The use of ITs, and particularly the Internet, as a tool to achieve better government.
- The use of information and communication technologies in all facets of the operations of a government organization.
- The continuous optimization of service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media.

As such, following in line with the OECD definition of e-Government, e-Governance can be defined as the use of ITs as a tool to achieve better governance.

World Regions	Population (2010 Est.)	Internet Users 2000-12-31	**Internet Users Latest Data**	Penetration (% Population)	**Growth 2000-2010**	Users % of Table
Africa	1,013,779,050	4,514,400	**110,931,700**	10.9 %	**2,357.3 %**	5.6 %
Asia	3,834,792,852	114,304,000	**825,094,396**	21.5 %	621.8 %	42.0 %
Europe	813,319,511	105,096,093	**475,069,448**	58.4 %	352.0 %	24.2 %
Middle East	212,336,924	3,284,800	**63,240,946**	29.8 %	**1,825.3 %**	3.2 %
North America	344,124,450	108,096,800	**266,224,500**	77.4 %	146.3 %	13.5 %
Latin America/Caribbean	592,556,972	18,068,919	**204,689,836**	34.5 %	**1,032.8 %**	10.4 %
Oceania/Australia	34,700,201	7,620,480	**21,263,990**	61.3 %	179.0 %	1.1 %
WORLD TOTAL	6,845,609,960	360,985,492	**1,966,514,816**	**28.7 %**	444.8 %	100.0 %

Table 2: World Internet Usage and Population Statistics
Source: Internet World Stats – www.internetworldstats.com/stats.htm

While many citizens in developed countries have become accustomed to, and take for granted the comfortable, transparent and cheap interaction between themselves and their governments, their counterparts in developing countries languish under tardy government systems that are very inefficient and are breeding grounds for corruption.

Korean IT companies could market affordable solutions to governments in developing countries to help them to become more effective and achieve better governance. Solutions could include:

- Tax administration systems – will result in increased transparency and reduction in corruption.
- Transportation – for e.g. Toll gates, smart transportation cards
- Optimized service delivery
- Online transactions (result in reduction of paper use and also save the environment)
- Online application and selection for government tenders

4.6 Enterprise Resource Planning (ERP) for small and medium enterprises (SMEs)

As previously noted, in most economies, smaller enterprises are much greater in number than large companies and conglomerates; are responsible for driving innovation and competition.

Considering that SMEs contribute so significantly to their respective economies, it goes without saying that they need to be efficient. Enterprise Resource Planning(ERP) software can help them to increase operational efficiency, reduce cost, manage employees and customers more effectively, and streamline their financial operations.

Korean IT companies can capitalize on this need/opportunity that exists in the market and use their expertise in designing ERP systems to target these SMEs to offer products specifically tailored to their needs.

4.7 Wireless (communication and network) and other Technologies

We have witnessed that Apple's iPod and iPhone are opening a new era of Hardware & Software convergence and Servitization of digital products. Even though Korean IT companies have concentrated System Integration such as ERP for business process, they also need to embrace Digital Convergence which brings not only greater challenges but also greater opportunities in new services, applications, content, platforms and devices.

- Security systems: cybernetic/hackers, thievery and Electronic Monitoring Bracelet (prisoners)
- Videoconference Technologies
- Telecom systems: 3G and 4G (WiMAX and LTE Advanced)
- Satellite communications: GPS/RFID and other systems to remote any movements and changes of environment (forest, sea, animals of national parks iceberg etc.)
- Wireless energy transfer

5. Conclusions

The main focus of this paper was to present the weakness of Korea IT enterprise and provide relevant strategies for Korean IT companies (such as Samsung SDS and LG CNS et al.,) to go global. We conducted this, following a thorough analysis of the current IT sector, particularly the key/critical success factors(CSFs) that exist in the industry.

This study analyzed Indian IT sector and the factors that influenced the success in going global. Further, overview of the Korean IT sector and assessment of Korea IT companies—particularly Samsung SDS and LG CNS—were provided and discussed in this research. Finally, we suggested a couple of possible strategies to Korea IT companies which exploit the opportunities for globalizing their market. Some practical implications of the study findings as well as future directions and issues for IT companies in Korea were also discussed. This analysis is anticipated to function as a blueprint for Korea IT companies that are marking efforts to accelerate going global markets.

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