IT in Hong Kong and the Cyberport

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Digitization and Informatization - Progress and Policy

Governments around the world are striving to promote the development of information technology (IT) in order to seize the opportunities and meet the challenges of the Information Age. Digitization has enhanced the efficiency of communications and data transmission, thus rendering geographical distance obsolete. The globally connected world has facilitated more cross-border activities, leading to a single economy in the world market in which all have to cooperate and compete with one another. The Hong Kong Special Administrative Region Government (HKSARG) has taken a variety of steps to face the challenges presented by these global trends of IT development, digitization and informatization.

The HKSAR Government set up the Information Technology and Broadcasting Bureau (ITBB) in April 1998 to formulate comprehensive and long-term strategies to sustain Hong Kong's informatization plan and co-ordinate policies on IT, broadcasting and telecommunications. The Chief Executive of the HKSAR, Mr. Tung Chee Hwa, outlined in his policy address the vision to make Hong Kong a leader in the information world, and emphasized the importance of using IT to help retain its competitive edge and drive its overall economic expansion. The "Digital 21" IT strategy announced in November 1998 sets out Hong Kong's IT policies and initiatives to maintain the city's status as a leading international financial and business center, and retain the city's competitiveness in the global market.

The "Digital 21" IT strategy has identified four enabling factors for developing IT in the HKSAR. The four enabling factors are -

1. developing high capacity telecommunications system;
2. establishing an information infrastructure with an open, common interface for secure electronic transactions;
3. promoting IT education to ensure that the population knows how to use IT ; and
4. cultivating an environment that stimulates creativity and welcomes advances in the use of IT.

A fully digitized, efficient and high capacity telecommunications infrastructure is a pre-requisite for informatization. Hong Kong's telecommunications system was fully digitized by 1995. Its telecommunications infrastructure is amongst the best and most advanced in the world. All commercial premises and over 80% of our households are covered by broadband connections. Its external Internet capacity, 44 Gbps at present, is amongst the top in Asia, and will further increase by ten-fold in the next three years. This will well equip Hong Kong to develop into a communications hub in Asia.

Apart from the "wired" infrastructure, Hong Kong is also a leading hub for wireless applications. It now has a mobile phone penetration rate of 64%, which is the highest in the world outside the Scandinavian countries. Combining communications and computing technologies is gaining popularity as exemplified by the emergence of WAP operators and many WAP sites. And third generation (3-G) communications technology is also coming on stream. Hong Kong will invite license application in 2001. All these make Hong Kong a favorable place for e-commerce as well as m-commerce to prosper.

Next come Internet usage. The people of Hong Kong have always been positive towards the use of latest technologies. An indigenous "Internet culture" has been successfully fostered in Hong Kong in a relatively short period of time. Hong Kong now has about 2.5 million registered Internet accounts and more than one-third of the population are Internet users. In addition to an advanced infrastructure, Hong Kong has a community that is well adapted to the cyber culture, and a potential e-commerce market, which was estimated by industry to spend US$5.3 billion in 2004.

The physical infrastructure is complimented by an established policy to maintain an open and fair market environment to allow operators, based on their individual business strengths, to compete so as to provide quality and innovative services at competitive prices. The Office of the Telecommunications Authority had already announced in 2000 the procedures for the introduction of 3-G mobile communication services through a process of pre-qualification and auction, with a view to making the services available by 2001. This would further liberalize the telecommunications market, foster free competition and provide a level playing field to encourage investment. Under this policy, it is estimated that new private investment of some HK$13 billion in telecommunications infrastructure will take place in the next few years to further strengthen Hong Kong's position as the communication hub in the Asia-Pacific Region.

To foster the development of electronic commerce, the HKSAR Government seeks to provide a favorable environment for promoting the wider adoption of electronic commerce in the community. A pre-requisite is to instill public confidence in the security of electronic transactions. The Hong Kong Post Office has already set up a certification authority in the HKSAR to offer certification services via a local public key infrastructure. The HKSAR is in a good position to address the issues of authentication, integrity, confidentiality and non-repudiation in electronic transactions.

In order to provide a secure and clear legal framework for electronic commerce, the HKSAR Government has enacted the Electronic Transactions Ordinance in 2000. The Ordinance is largely based on the United Nation's Commission on International Trade Law-Model Law on Electronic Commerce. It gives electronic records and digital signatures the same legal status as that of their paper-based counterparts. The HKSAR Government has also taken the lead in accepting submissions in the electronic form under the bulk of the statutory provisions in the laws of the HKSAR after the enactment of the Ordinance.

To encourage the use of IT, the HKSAR Government is taking the lead to implement the Electronic Service Delivery (ESD) scheme in October 2000. The ESD will provide an open and common information infrastructure for the public to obtain Government services on-line. A wide range of services will be covered which include submitting tax return, paying Government bills, renewing driving or vehicle licenses and registering as a voter, etc. Through the Internet and other access means like public information kiosks installed at convenient public locations, the community can obtain Government services 24 hours a day and 7 days a week. The ESD scheme will also serve as a catalyst to pump-prime the electronic commerce development in the private sector, through allowing commercial services to be provided via the same information infrastructure electronically.

On IT education and manpower training, the HKSAR Government has formulated a comprehensive policy to ensure a stable supply of quality manpower to sustain the development of the IT industry. On basic education, a five-year strategy on "Information Technology for Learning in a New Era" has been launched. The goal is to use IT to turn the schools into dynamic and innovative learning institutions, to foster an attitude of life-long learning among our students and to develop their capabilities, so that they will be able and willing to use IT to meet the challenges in their studies and in their work in future. The implementation of the strategy involves capital expenditure of HK$3.2 billion and recurrent expenditure of over HK$550 million each year. The target is to have 25% of the school curriculum taught through the use of IT by the 2002-03 school year.

Manpower training is a critical factor for the development of an IT society. At present about 19,000 (or 23%) full-time degree-level students are studying in IT-related fields. The Vocational Training Council also offers around 17,000 sub-degree level IT places annually to provide the necessary IT manpower. There are also retraining programs to provide basic IT courses to school leavers and the unemployed.

In addition to local supply, some of our IT professionals come from overseas. Many IT companies set up offices in the HKSAR and bring in relevant professionals. To further attract experts from overseas and the Mainland of China to work in the HKSAR, the HKSAR Government launched the "Admission of Talents Scheme" in 2000, which enables local companies greater flexibility to admit professionals from the Mainland and overseas to work in the HKSAR. In 2001, the Government announced a new "Admission of Mainland Professionals Scheme" to attract professionals working in the IT and finance fields. Mainland students studying in the HKSAR were given permission to remain in Hong Kong to seek work.

It is anticipated that major infra-structural projects such as the Cyberport and the Science Park to be completed in the next few years will also attract Mainland and overseas professionals and should help nurture talents in the HKSAR.

IT has become an essential element in the lives of over 2.5 million Internet users in the HKSAR. Internet traffic almost doubled in 12 months reaching 1.3 billion minutes per month in March 2000. To promote the wider use of IT, the HKSAR Government has

implemented a wide range of measures, which include the provision of computers, Internet and electronic mail services at community halls, post offices and libraries for use by the public free of charge. This substantially increases the opportunities for the public to learn and experience how IT could benefit them in their everyday life.

Linking up with the Mainland and Asia-Pacific Region

The development of IT in the HKSAR is closely related to that of the Mainland and the Asia-Pacific Region. First and foremost, China's accession to the WTO will bring about enormous business opportunities to the HKSAR. Given the established partnership with the provincial and municipal enterprises in the Mainland, the HKSAR is set to play an important role in the opening of the Mainland's market upon its accession to the WTO. There will be substantial rooms for HKSAR companies to further develop, especially for those in the IT and telecommunications sectors, thereby encouraging them to increase their investment in both the HKSAR and in the Mainland, thus further promoting the development of IT and telecommunications industries in both places.

Second, the HKSAR is well positioned to provide services like resource and market matching for Mainland IT research and development. For example, the Industry Department provides information through its website on the science and technology institutions in the Mainland; the Hong Kong Trade Development Council provides information on the Mainland enterprises; and the Hong Kong Productivity Council has established the Hong Kong Industry Online database and has linked it up with the China Productivity Promotion Net database in over 20 productivity centers in the various cities and provinces of the Mainland. Such database covers information about companies, markets, products, policies, investment and partnership, etc. and the linkage helps to introduce Mainland's technological development to places outside China.

Third, the state of the art financial and banking system of the HKSAR can continue to provide capital financing services for the development of IT enterprises in the Mainland and the Asia-Pacific Region. The HKSAR has always been the preferred place for raising capital by Mainland enterprises. The majority of the Mainland enterprises approved for overseas listing have chosen to list in the HKSAR. The Growth Enterprise Market (GEM), recently established by the Stock Exchange of Hong Kong hopes to act as an intermediary to provide development capital for emerging local, Mainland and regional enterprises, especially the IT-related enterprises. Since November 1999, the GEM has helped 25 emerging growth companies to raise over a total of HK$10 billion. At the same time, the HKSAR has also developed into one of the Region's largest venture capital center that provides start-ups with a readily available source of capital. As at mid-1999, the amount of venture capital managed through the HKSAR amounted to over HK$130 billion. All these will enable the HKSAR to play a useful role in the high-tech development of the Mainland and the Region.

As an international city in China, the HKSAR is also well placed to become the Internet content hub in the Region, especially for the Chinese-speaking communities. The HKSAR Government is in the process of formulating suitable policies and implementing

appropriate strategies to encourage local development and establishment of innovative and attractive web sites, particularly those that can help the HKSAR to develop into an electronic commerce gateway to the Mainland.

The Cyberport Project

The Cyberport project was announced by the Financial Secretary of Hong Kong in his annual budget speech in March 1999 as one of the initiatives to develop the city into an international information technology and information services center. It was promoted as Hong Kong's flagship information infrastructure project to put Hong Kong firmly on the global IT/IS map.

The Cyberport concept was first developed by Richard Li, Chairman of Pacific Century Group, who succeeded in selling the idea to the HKSAR Government. The Cyberport is an information infrastructure project to create a strategic cluster of leading IT companies and a critical mass of professional talents in Hong Kong. These companies will specialize in the application of advanced IT to the development of services and multimedia content to support businesses and industries ranging from finance, through trading, advertising and entertainment, to communications.

The Cyberport is a comprehensive development, which comprises a mix of offices, residential, commercial and recreational facilities, supported by state of the art telecommunications and information infrastructure and a wide range of high-tech facilities such as multimedia laboratory and cyber library, etc. It is not intended to be just a place for multinational corporations to locate their regional business centers, but also a location for promising local companies to set up their operations. Situated within a pleasantly landscaped campus-like environment, the Cyberport aims to act as a focal point for like-minded companies and professionals to exchange ideas, expertise and unleash creative synergy. The Cyberport is expected to
- heighten local awareness of IT
- create an international multimedia and information services center
- consolidate Hong Kong's position as an information and technology hub
- enhance the competitiveness of other sectors
- create an innovative IT center as a result of the clustering effect of quality IT companies
- provide a new tourist attraction
- provide long-term benefits to Hong Kong's economy

The Cyberport is planned with a view to develop itself into an international IT center famous for creative and innovative IT applications. It is to be completed in three phases between 2001and 2003. It has a capacity to accommodate 30 medium and large size companies (staff of 100-500) and 100 small size companies (staff of around 50). At present, some 15 leading IT companies have signed letters of intent to become anchor tenants. They include Cisco Systems, CMGI, Hewlett-Packard, Hikari Tsushin, Hua Wei, IBM, Legend, Microsoft, Oracle, Pacific Convergence Corporation, Portal, Silicon

Graphics, Softbank, Sybase and Yahoo!. Another 148 companies, local and overseas, have also registered interest to become tenants.

The Cyberport project comprises the Cyberport and an ancillary residential development to be developed at a site occupying 240,000 m^2 at Telegraph Bay, Pokfulam on the western shores of Hong Kong Island. The Cyberport is a comprehensive development, which will comprise intelligent offices (92,600 m^2), shared IT/IS facilities, a Cybermall with exhibition, retail, educational and entertainment facilities (29,000 m^2), a hotel (125 rooms), serviced apartments (50 units) and residential houses (27 units)/apartments (144 units).

The residential portion, which comprises about 3000 residential flats and houses (375,400 m^2), will be completed from 2004 to 2007. Units of the residential portion will be put on sale in an open market so as to generate revenue to drive the Project.

The shared facilities and services to be provided by the Cyberport include:
1. World class telecommunications and information infrastructure with global connectivity.
2. A wide range of shared facilities and services for use by tenants on a need to use basis:-
   - content center
   - cyber library
   - multimedia laboratory
   - demonstration facilities
   - exhibition and trade show facilities
   - office and commercial support services and facilities
   - interface with universities and research institutions, both locally and internationally
   - networks with venture capitalists and angel investors
   - continuous upgrading to ensure all facilities are state-of-the-art
   - first class management services
3. Intelligent Offices
   - supported by telecommunications and IT support systems and services
   - integrated radio systems for mobile phone and pager
   - broadband switching equipment on site
   - full range of telecommunications services (data, voice, Internet, satellite, etc.)
   - financial information services
   - backup generators for essential applications
4. Benefits to Hong Kong
   - economic gains
   - international information technology and services hub
   - multimedia and information applications center
   - enable growth for high value added services
   - stimulate development of multimedia production industry
   - twelve thousand jobs

- four thousand jobs during construction
- a new tourist attraction
5. Talents and educational
   - experts and specialists recruited from overseas and the Mainland create a critical mass
   - transfer of skills to local personnel
   - fast growing job opportunities--University graduates will benefit from wider employment field
   - encourage local youth to excel in IT
6. Culture and entertainment
   - improve quality and marketability of content to different territories
   - new opportunities for growth for the Hong Kong's broadcasting and film industry

Development, Ownership and Management

On 17 May 2000, the Government signed a Project Agreement with Cyber-Port Limited, a special purpose vehicle set up by Pacific Century CyberWorks Limited (PCCW) to perform the role of the Developer and with PCCW as the parent company of the Developer.

The Project Agreement requires the Developer to complete the Cyberport project according to the prescribed timetable, and to undertake the construction, financing and default/completion risks. There is also a full range of safeguards to protect the Government's and public interest. One of the safeguards is that the Developer agrees to pay for any cost overrun if the construction cost exceeds HK$15.8 billion at money of day prices.

The Cyberport will be constructed by the Developer in accordance with the design and specifications pre-agreed with the Government. The Cyberport, when completed (in phases), will be handed back to the Government. Ownership and management rights belong to the Hong Kong Government. The Developer will be required to complete the Cyberport in 3 phases, by end 2001/early 2002, end 2002, and end 2003 respectively. The Government has set up a private company called Hong Kong Cyberport Management Company Limited, fully-owned by the Financial Secretary Incorporated, to hold the title and operate the Cyberport in accordance with prudent commercial principles.

How the Cyberport Project fits into Hong Kong's IT Strategy

The Cyberport project have been questioned on the grounds whether it fits in with the Digital 21 information technology strategy, some have questioned the process by which the HKSAR Government arrived at its decision and the proposed arrangements for its development. Others have chided it for being a property development project dressed up as an information technology project.

The primary aim of Digital 21 is to achieve the vision set by the Chief Executive of "mak[ing] Hong Kong a leader, not a follower, in the information world of tomorrow". Some people have queried this IT vision and argued that Hong Kong lags behind in comparison with others in the region. That is certainly true in the manufacture of certain computer hardware, such as computer chips, desktop PCs and other computer peripherals. Others argue, however, the rapid convergence of technology in IT, telecommunications and multi-media content creation and the exponential growth of the Internet have opened up an entirely new race. A race where the focus is on applications, services and content. A race where the competition is won through the rapid and effective development of applications and services to enhance the competitive edge of all our businesses and the creation and distribution of innovative global and local content to meet an ever-expanding and increasingly demanding customer base. A race where almost everyone is at the starting line and where Hong Kong may have particular strengths to enable her to stream ahead of our competitors due to its –

- excellent telecommunications infrastructure
- policies to further liberalize the telecommunications market and improve the regulatory regime
- business friendly and supportive market environment that allow the free flow of information and freedom of expression in the race to create applications and content
- ability to communicate and create content in both English and Chinese to meet the increasing demand for content in the local language
- unique relationship with the Mainland of China make Hong Kong particularly well-placed to act as the digital intermediary for the enormous Chinese market

In order to fully exploit these strengths, the Cyberport is deemed to be an important infrastructure in this overall strategy to attract to Hong Kong leading companies in the IT and services field so as to form a cluster of like-minded, high tech and innovative companies. The aim is to create a strategic clustering effect in the development of IT and IT services through the Cyberport. And to ensure the highest chance of success from the start, it will be designed to meet the requirements of the target companies and to be marketed successfully to them so as to get them interested in becoming tenants. It was argued from the very start that this can only be achieved if the Cyberport is done in partnership with leading IT companies in the private sector, and with the private sector taking on the responsibility for the design, construction and marketing of the Cyberport. And in such a partnership, the Government would prefer to have the funding responsibility and the risks of development taken on by the private sector partner as well.

Such an approach is in contrast with other initiatives like the Science Park that were in the pipeline, where the private sector played a much less significant role. It is interesting to note the Science Park and other similar projects had been undertaken by the Trade and Industry Bureau rather than the Information Technology and Broadcasting Bureau of the Government.

The decision to enter into direct negotiations with one private sector partner is also significant. The new approach reflected a number of considerations -

- a preference for working with a leading IT company, which can ensure that the Cyberport's design and support services will meet the requirement of the target tenants
- a company who was itself going to be an anchor tenant at the Cyberport developing leading IT applications and services. This can ensure its continued interest in making the Cyberport a success and gives credibility in its marketing of the project.
- a company who would be able to ensure the timely completion of the Cyberport, to specifications agreed by Government.
- a company willing to take on funding responsibility for the whole project as well as the risks of development.

Experience from previous government approaches to leading IT companies suggest that they are generally reluctant to take on such a major development spanning many years even if it means entering into partnership with the Government. For this reason, the HKSAR Government finally decided to proceed on a direct negotiated basis with the Pacific Century Group (PCG) in the belief that it will be able to fulfill all the foregoing objectives.

In deciding to work with Pacific Century Group right from the outset other companies were not given the opportunity to bid for this project. The HKSAR Government defended its decision by arguing that this was an acceptable arrangement after balancing the following considerations -

- the idea was put forward by the chosen partner;
- this partner is able to meet all the objectives set by the Government;
- a tendering process will cause delay of at least a year, which will seriously affect the HKSAR's ability to stay ahead in the IT race;
- interest among leading IT companies, willing to become anchor tenants, willing to shoulder all the cost and the risk and willing to assure the satisfactory completion of the project in the shortest possible time did not seem to exist in the market.
- To meet the demand of those who wish to take part in the potential profits from this project, the Government was prepared to sell to them the Government's equity interest in the project.

That the Cyberport was not a mere property deal with a lot of IT cosmetics on it was rigorously defended by the Government. The most important reason why the granting of residential development rights on part of a site in a major infrastructural project was chosen as a means to drive the entire project was that it was an acceptable practice, whereas direct financial subsidies were a taboo in Hong Kong's positive non-interventionist policy approach to economic affairs. Examples, which come readily to mind, include the construction of the mass transit system and railway system. Given that the Cyberport is a major strategic information infrastructure, involving substantial investment spanning over several years, the Government accepted the need for revenues to be generated through the sales of flats built on the residential portion to assist in its financing. The project is different from a normal property development in that the

revenue from the sale of the residential flats will first be ploughed back to the development of the Cyberport and $200 million will be put into a development fund before any profits can be shared.

Some people in the community have questioned the chances of success of the Cyberport, given the severe competition from similar developments elsewhere. Others believe that Hong Kong still has a window of opportunity to carve out its own niche in the IT and services field at this juncture. As mentioned earlier, Hong Kong does possess significant comparative advantages in the development of IT applications, services and content creation. In sounding out leading IT firms, the feedback obtained by the Government was that they also believe Hong Kong has an edge in these fields because of our world class information and telecommunications infrastructure, our business friendly environment, our strategic position vis-a-vis the China market, and the creativity of the Hong Kong people. These are important factors affecting their decisions on where to locate their multi-media production, content creation, e-commerce, and similar activities. The Government certainly sees the Cyberport as a strategic infrastructure designed to maximize Hong Kong's advantages.

The Cyberport Vision

The main thrusts for IT development in Hong Kong outlined in the "Digital 21" strategy is to build on four enabling factors. They are a high capacity telecommunications system, an open and secure information infrastructure, a high level of IT expertise in the population, and a friendly environment conducive to creativity.

The Cyberport is considered as an important and strategic infrastructure for the IT and services sector, as well as for the whole of the economy. While the project alone cannot propel Hong Kong into the information world of tomorrow, nevertheless the Cyberport is intended to be an important infrastructural component to help IT and services companies by providing them with a friendly environment conducive to creativity.

If leading IT and service companies around the world are prepared to put important research and development and applications functions in the Cyberport then the benefits will flow through to the whole community. Hong Kong companies will benefit from the opportunity to work in close proximity with leading IT and services companies from overseas. The companies in the Cyberport could provide the people in Hong Kong with opportunities for learning new skills and for developing creative ideas, which they otherwise would not have.