Suggestion on the consultation report of Digital 21 – The smart city

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The author

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Jacky got Microsoft Most Valued Professional award, an award for a group of IT professional during 2006-2010. He built up more than 50 companies IT structure already, and managed more than 100,000 computers. He also participate a lot of successful IT projects.

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Introduction

I am pleased to present my opinion on the "Digital 21 Strategy". This document summarize my opinion on the suggestion of developing Hong Kong into a digital city, and how to maintain and create a digital city to assist Hong Kong to become an information city, and provide state of art digital services in the world.

Hong Kong is a city with high population density, this helps the telecommunications organization can develop high coverage Internet connection with relatively effective investment to cover the entire islands. It also strengthened the power for the city to become a high technology and internet coverage location. However, the limitation of land resources and high labour cost also become the problem for Hong Kong to develop innovative industry. It will become one of the main concerned for the government to develop computing industries.

IBM provided a report for the recommendation of Hong Kong's digital development. It covered difference area including education, infrastructure coverage, develop and user awareness. Although the report also encourage new business development, it was missing the coverage of professional education, and the needs of enhance the professionalism of the industry, which is one of the pull factor for the development of IT Industry in Hong Kong.

In the following sections, I will try to explain my opinion base on the IBM's digital 21 report for 2012.

Digital Certificate as transaction platform

IBM bring out that the technology development is changed compare with the last Digital Report in 2008. The internet technology is developed rapidly. As the most ICT developed city, Hong Kong is also become most of Smartphone users in the world.

Although more than 80% of Hong Kong households had personal computers in 2012[1], most of the Hong Kong residence using Internet for traditional internet searching and communication only. Although the percentage of internet payment is increasing, there have only 44.5% of the household was using internet for online payment during the past year.

One of the reasons may because Hong Kong has high population density compared with other countries. However, some of the China based Internet platform such as Taobao.com which is providing products from China with cheaper price is attracting the eyebrows of Hong Kong people to participate; however, the level of participation is still very low compare with offline sales. It is because Hong Kong is too accessible and the people are enjoying the shopping experience[2].

It proved that Hong Kong people is still have hesitation on internet payment services, and it is believe that the security of internet payment is one of the concern.

In the report from IBM, it suggested that the government should further develop personal certificates as one of the digital 21 strategy. To further evaluate the project, I will also suggest the government to increase the recognition of this certificate, in order to gain the public to use this certificate for their daily transaction. The government also provides more platforms for the public to using this certificate. In order to provide the best environment for the end users, government could provide some incentives for the developer to start putting personal certificate as one of the media of transaction.

Electronic payment, mobile payment will be one of the major media for payment. However, the security of such kind of method is still a nightmare. To make this project successful, the authority should also get involved with some of the digital authority organization such as Verisign to recognize the certificate, it should also able to import to all computers in Hong Kong as a package, to allow users to retrieve those information, and update the related record easily.

The report also suggested to use digital certificate actively on government services. It is definitely can help the government to minimize the cost for the services. However, again the identify identification is one of the major concern on the digital certificate. The government should be able to make sure the

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[1] Usage of Personal Computers and Internet Services by Hong Kong Residents, 2000 to 2012, Hong Kong Monthly Digest of Statistics, May 2013; http://www.statistics.gov.hk/pub/B71305FA2013XXXXB0100.pdf

[2] Why Hong Kong People are afraid of online Shopping – Despite a highly developed infrastructure for e-commerce, consumer culture in Hong Kong is stuck in offline mode, Christopher DeWolf, 16 Feb, 2011; http://travel.cnn.com/hong-kong/shop/why-are-hong-kong-people-afraid-online-shopping-441145

digital certificate is accurate to identify the user. However, the government should need to consider enhancing the existing infrastructure, and authorization method.

It is suggested to setup some of the Kiosk type of application platform in difference location, citizen can use their ID card with certificate, and a second method of identity such as fingerprint to identify the person, and they can use the platform to apply for some of the government services such as passport, car license or some of the change of the record. It can further release the need of the application time, and also can allow the government to enhance their services, by providing 7x24 services via kiosk.

Basic network connectivity and Wifi Connection

As one of the highest internet speed location, Hong Kong enjoy the best location for developing connection with Europe and American counties. As the center of Asia, Hong Kong got the best geographical benefit to develop connectivity with those countries. Together with local connectivity, Wifi connection is one of the tools for Hong Kong to develop as a digital cities. From the report by IBM, they suggested to increase coverage of Wifi connection and internet connectivity.

Building up as a new high-technology boundary

One of the suggestion on the IBM report showing that we should develop data center as one of the core infrastructure. It is agreed that Hong Kong should develop it because the network infrastructure is out-compete with other countries. Hong Kong, as the center of Asia, have the fastest internet connection to Europe and America. It is beneficial if Hong Kong can develop data center locations, and allow companies to place their regional data center in Hong Kong.

It create the base for Hong Kong to develop as location of data center. The government was starting to increase the occupancy of Data Centre in Tseung Kwan O; it is the starting point for Hong Kong to be developed as a data center. However, Hong Kong still need to cope with the problem of high land price and labour cost, which is the problem for Hong Kong to develop data center solution.

To cope with this problem, it is suggested that the government should provide more resources such as infrastructure resources and land resources to setup data center in Hong Kong. We can also research cooling system using seawater or other tools which is already in place to make Hong Kong as the best data center. We can also enhance the supporting and remote monitoring tools for user to manage their servers located in Hong Kong.

Wifi@HK as the major connection

The report also suggested to implementing more service as the infrastructure of the city, such as free Wifi for most of the areas in Hong Kong, and promoting the big data and cloud computing as the means of the life.

It is true that Wifi can assist the public to access the internet faster. However, there have concern on the network connection requirement as well as the needs of the user to using Wifi in the public area as most of the mobile phone should already have internet plan.

The Google report showing us that more than 63% of Hong Kong citizen using smartphone[3] as their mobile device, 96% of them have their data plan to connect to internet already. It is doubt that the need

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[3] Google Hong Kong's Our Mobile Planet Smartphone Research – Compare between Hong Kong and other Asian countries, http://www.thinkwithgoogle.com/mobileplanet/en/

of Wifi connection is still mandatory. The government should encourage public to make use of public facilities such as the resources from public libraries for internet entertainments and study instead of building up successive Wifi resources.

Also, the wifi connection is actually helping the visitor to using the citizen's resources to subside the visitors. We also need to estimate the usage of wifi connection in difference location to install enough equipment if we are using Wifi for connection. It will create additional cost including administrative cost for tourist to using public resources. The government should make use of the resources on other criteria such as environmental protection, in order to increase the familiarity of the city.

Basically, we need to enhance the Wifi connection for all location, although there have Wifi provided by difference service provider, their quality is very poor. We believe that the full Wifi in Hong Kong is required, but there have couple of technical issue need to be adjust.

The usage of Wifi connection is one of the concern. It is required to estimate the population on each location in order to provide difference bandwidth and connectivity. However, it is difference compare with location. The government should have more research for how the people using internet and adjust the hardware in certain locations.

To cope with the equipment problem, we can implement some control on the system such as time limit to using Wifi connection. It can be managed by the equipment that providing WIfi connection. The benefit to have time limit are we can easier for us to control the connectivity.

The government should also consider the interference of the signal because of too many Wifi Router in location. It will cause the connection not stable. To cope with this, we can setup the Wifi signal with difference channel. However, it will consider the overall environment.

The investment on Wifi connection should be minimized, but the government can consider opening the 3G/4G market in order to lower the cost of using 3G/4G connection. With the control from market we can ensure the fairness of usage of our internet connection, and the government can also attract Telecommunication service provider to enhance their services, to achieve mutual benefits.

Although there have some voice on the public on the new spectral arrangement, it is believed that the existing spectrum should still have room for our development. Also, the government can also consider providing both 3G and 4G spectrum for difference audience in the society. It will more efficient then providing full Wifi system to the public or the government may also consider to using 3G/4G as the backup for the end users.

Consideration of usage of IoT and RFID

Internet of Things (IoT) is trying to making everything into a searchable internet world. User is able to access the information on each product easily to review the content and healthiness of the products. The report suggested that Hong Kong should make use of IoT with RFID and big data to transform the city into digital life.

IoT being built and operating in difference industry in most of the developed countries. As one of the most enhanced internet developed country in the world including China, the development of Internet of Things is not mature. Although it is estimating there will have 50 billion of things will connected to internet. The role of Hong Kong should not be clear compared with another location.

As the report suggested that Hong Kong so develop more IoT with big data, our recommendation is Hong Kong is relatively small in resources and the market is not big enough compare with another location. The limitation of land resources cannot create demands on Big data and IoT for the business.

As the only reason of the development problem is because Hong Kong has very limited land resources. It made condense population and the requirement of long distance data transfer is minimize. On the other hand, most of the industry was moved to China in 1990's. It made the development on RFID and Internet of things is controlled by the development in China. Although Internet of Things broken the limitation of physical boundary, it cannot changed the industry structure of Hong Kong, it made the development of RFID will not happened.

The typical problem on land resources make Hong Kong does not required furthering developing Internet of Things. Difference with other countries, Hong Kong is high density and the overall city is small in scale compare with the other countries such as China. Hong Kong has relatively better transportation facilities compare with another counties as well. It limits the resources and the demand of developing internet of things compare with other countries.

The report suggested to develop internet of things in some of the business such as car park or transportation, it can further implement in the sense of infrastructure, but it may not able to assist Hong Kong to have more development because of those limitations. However, Hong Kong should consider making sure of the experience from nearby countries such as China and Singapore, to building up some of the resources to enhanced our digital life. Some transportation organization such as MTR and KMB already using Big Data to implement route information and waiting time for next bus. It is one of the good development using big data, and it is recommended to building up more so the city easier to obtain more information in the fingertips.

Furthermore, the development of IT in the life will also require more popular training and demonstration to the end users in order to allow them to understand more about Internet and how it can bring this into their life. It will incurred training for the professional and to all levels. It is also one of the ways to introduce this to the end user.

The government can also encourage to setting up some IoT services. Such as electrical doctoral services, public facilities services were already implemented in the market to allow end users to get some information.

Big Data

As the previous section mentioned that more than 96% of the citizen using smartphone as the communication tools, the Government should further develop the cloud computing strategy to both Hong Kong companies and household. The government should develop more data centre, or using those existing industrial building to set up large scales data centres. The government should also invite large organization to setup their data center in Hong Kong, or provide subsidies to those organizations to setup their data centres.

The use of big data is assisting Hong Kong people to enjoy their digital live. There have more than 83% of the company agreed that Big data can give them convenience to made a more correct decision. However, there have a lot of issues such as security, placement of the data and the computer expert on data mining is still storage in computer industry. And the most important issue is there have no company in Hong Kong can prove out the ROI of using big data in their industry. Compare with another country such as Korea, Hong Kong is behind those them for the implementation and testing.

The government should assist both public and private organization to develop their own database. Such as digital car park control and the apps to allow drivers to understand empty parking space locations, or even the digital household equipment such as auto power control. The subsidies from the government can allow citizens to improve their living condition to more automated and digital.

Government should also encourage the development of big data applications. The authorities should release more data on computer platform, to allow the developer to develop suitable application for to get the data feed from their centralize data center storage.

Hong Kong enjoys the best data connection and has couple of submarine data line to US and Europe. It is the basic for Hong Kong to develop large data centers. As the base of data centers, Hong Kong should develop more large scale data center to continue to enjoy the harvest of the internet development. However, the problem of limited land for development of data centers is keen and become one of the problem on the development. Although there have some new data centers developed in Tsueng Kwan O, it still has very limited data centers which can provide enough facilities. The government should start to consider acquiring new land resources to maintain the competitive advantage of data centers. We can also consider to acquire land resources in neighbor such as Shenzhen, to develop large scale BCP data center with direct connection to Hong Kong, to cope with the land resources problem.

The challenge from the neighborhood location is also needs to be addressed. China, Taiwan and India is occupying the entire Hong Kong IT business by develop program in their locations, and developing their business in Hong Kong. Definitely it will making difference competition in Hong Kong. However, high land and resources cost in Hong Kong is the main reason to make IT industry cannot out compete with the rest of the countries. Hong Kong should consider to develop a team of people to analyzing those data, and increase the level of cooperation with China and those countries.

To enhance the security on data communication is also one of the key considerations to develop big data society. The more data in the internet, the higher security is required. Hong Kong should start to encourage mobile security and data security towards mobile devices, in order to secure those data transmissions.

To develop the big data in the society, the government could provide more data to the public to use. Changing the serving method from traditional service desk to virtual platform also required big data information. So the government should have better planning on their data.

Suggestion on professional development

The government also suggested increasing the level of professionalism through educational development. It is true that the development on education can groom a group of professional to the industry and increase the overall knowledge on the industry.

The report suggested that the government should start to include programming language in lower level of education, it is true that the new education can allow student to learnt computer language better. However, the needs of the development is faster than the change in the industry, it makes most of the syllabus in the college are not satisfied the needs of the market. It is required to have additional training for the IT professional to understand the current needs in the market.

The challenge of IT professional from overseas are also one of the issues for Hong Kong development. There have a lots of IT expert in surrounding cities such as China, India and Taiwan. However, in Hong Kong the development of IT industry are relatively slow. Most of the large organization are using Hong Kong as a sales office only. It makes the industry cannot improved and makes the courses less attractive.

The government should enable the industry not only by increasing supply of the resources, but also need to create demand of the industry in order to attract more members to join the industry. It is suggested to indepth the relationship with difference worldwide organization, and arrange them to setup R&D offices in Hong Kong. It is sure that the demand of IT will groom the supply of IT professional and assisting the development of IT industry.

The report also suggested Hong Kong should connected with universities for the IT development. Apart from this, we believed that Hong Kong can take more active role on the product consulting, which provide information for the business to develop their product. However, it will also need to have a change on the syllabus to focus more project management and business. Those are the topics that the report stating that Hong Kong is lacking of this type of person.

Hong Kong should also trying to professionalize the IT industry in order to attract more youngsters to join this industry. Same as another industry like accounting, IT industry should be a professional industry but the image and salary is not reflecting the needs of the industry. It is solely because of the supply of professional is excessive as the result of financial crisis in 2008. There was a lots of IT graduate which have less experience than expected skills which make the industry cannot further develop, and becomes shortage of member in some fields especially those fields which the entry point is not strict. Hong Kong should develop some policies for the recognition in the long run.

To increase the adoption of professional development, the government can increase the level of participate with the foreign government to linkage their online library information to Hong Kong major resources in Library. They can also increase the level of exchanging data, research information and result with Hong Kong academic organization.

In the early education area, the government can also cooperate with foreign schools overseas to have some joined virtual lectures. They can also using some communication tools like MSN or online chating platform to communicate. The teachers in schools should also encourage their students to using this kind of platform to communicate with others.

Conclusion

As one of the most well developed location in the world, Hong Kong have its own reason to out compete with another location in Asia. However, IT industry was not able to working out in Hong Kong although we have powerful background and infrastructure. Hong Kong needs to develop more in order to out-compete with another location in the world. Digital development is one of the key to allow Hong Kong to become a digital center. However, Hong Kong government should provide better infrastructure support, with more infrastructures to support the entire development or it will be eliminate by the nearby countries.

Apart from development, Hong Kong should balance the opportunity of difference aspect in order to sustainable on difference area. IT should provide the society as a solution to provide a channel for Hong Kong to become one of the most IT developed cities to out-compete the challenges from other countries.