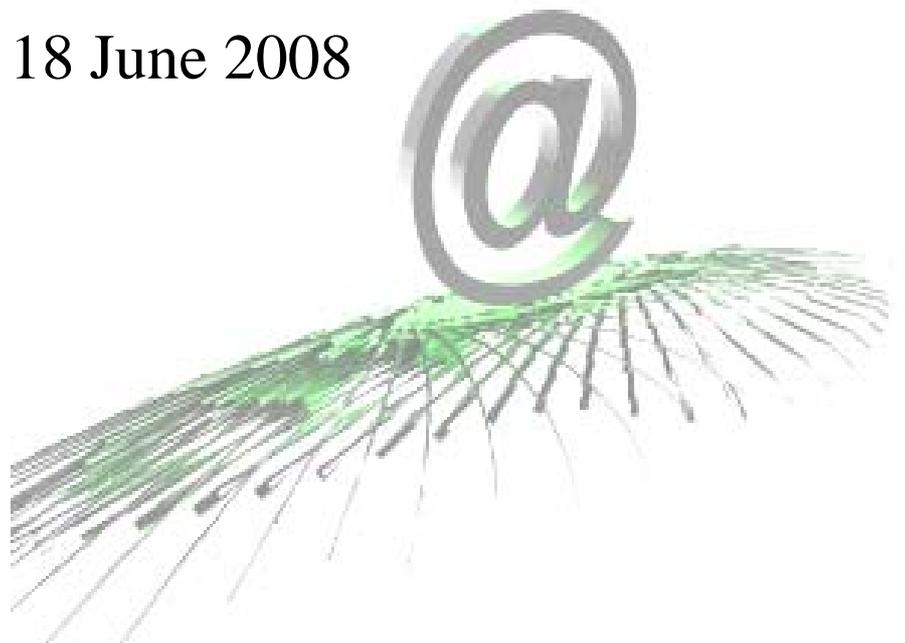


Research Report on Information
and Communications Technology:
**e-Government and Better
Governance in Hong
Kong**

The Professional Commons

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e-Government and Better Governance in Hong Kong

Research Report

I. Background

1. Facilitation of e-government through more convenient access for all and providing more actual interactive services, rather than simply acting as a “one-way” disseminator of information and for downloading Government information, is a key component for better governance and facilitation of participation by the public.
2. Achieving a higher level accessibility and deployment of e-government and information and communications technology (ICT) application across the territory will help bridge the digital divide and show a strong determination from the government to reconcile the alienation of the “digitally deprived.”
3. Although Hong Kong continues to enjoy high ranking in various international ICT indexes,¹ there is no room for complacency as the definition of e-readiness is changing rapidly. The Economist Intelligence Unit (EIU) recently noted that in measuring e-readiness worldwide, it should derive from more than just the number of computers, broadband connections and fixed-lined phones in the country.² On the other hand, greater importance should be attached to household affordability rather than simply the penetration rate of broadband.

II. Basic Principles of Our Recommendations

1. **Enabling wider ICT application and better e-connectivity to improve service provision of the Government and enhance the quality of governance in general.**
2. **A two-pronged approach must be adopted to strengthen the implementation of e-government on one hand and address the problem of digital divide on**

¹ The International Telecommunications Union ranked Hong Kong as the third highest in the world in the “2007 Digital Opportunities Index”. Hong Kong’s position also jumped from 10th in 2006 to 4th in 2007 in the “2007 e-Readiness Rankings” which was conducted by the Economist Intelligence Unit.

² <http://www.eiu.com/site_info.asp?info_name=eiu_2007_e_readiness_rankings&rf=0>.

the other hand.

3. **The Government should take into consideration the revised definition of “e-readiness” initiated by the EIU when setting its next ICT strategy. It would be important for the Government to further enhance “citizens’ ability to utilize technology skillfully, the transparency of the business and legal systems, and the extent to which governments encourage the use of digital technologies.”³**
4. **Encouraging new wave of ICT development to make Hong Kong a genuine world city with a vibrant digital city life.**

III. e-Government

A. From e-Download and e-Information to e-Services and e-Engagement via Government Websites

1. Present situation

a. Limited amount of e-government services

- i. The web portal of the Government (www.gov.hk/en/about/os_residents.htm) is the platform to deliver G2C (Government-to-Citizen) services. The online services provided via the Government portal can be categorized as follows: information dissemination, e-forms, e-payments, e-complaints/e-enquiries, e-shopping/ticketing and e-services. Among them, 55% majority is merely providing one-way dissemination of information.⁴ In regard to websites of government bureaux and departments, most of them still serve only as the disseminator of information, and for downloading materials, rather than providing direct services. The portal is a “single-way” communication and lacks a sense of “service-driven” mentality in electronic means.
- ii. Most of the government departments interact directly with the public through

³ <http://www.eiu.com/site_info.asp?info_name=eiu_2007_e_readiness_rankings&rf=0>.

⁴ See <http://www.gov.hk/en/about/os_residents.htm>.

telephone enquiries, but no similar services via the Internet.

b. Lack of an integrated e-government services

- i. The Government website has been revamped and is targeting at four different groups: residents, businesses, non-resident and youth. The Government recognizes that different user groups of the portal should have different access requirements. Yet such manual categorization still failed to provide e-government services in an integrated way. Under the present procedural arrangement, different government departments require individual users to adopt a new set of username and password for the use of the services of its own. These e-government applications do not follow the norm of a single “e-account” for the access of e-services to all departments of the Government as adopted in some overseas countries.
- ii. Although the Government claimed that about 1,200 government services have been provided with e-options,⁵ for the time being, only 86 e-services are listed in the official web portal of the Government.⁶ The general public would need to access respective departmental websites to get the e-government services. The Government should provide a more comprehensive list of online services in its “online services” page in the Government’s portal.
- iii. Another evidence to indicate the lack of an integrated approach in the provision of e-Government services is on the segregation between e-forms and e-submissions. Although the Government claimed that “over 95% of the Government forms (about 2,500 forms) are available on the Internet through the “Government Forms” website and/or the departmental websites”⁷, only 419 out of a total of 2043 forms listed in the "Government Forms" page of the government portal can be submitted electronically, available in the page. That means 80% of the forms would still require users to print it out and submit via "traditional" means. Moreover, some of the forms would only be available in the individual websites of the bureaux and departments, and that the total numbers of the e-forms in the "Government Forms" page of the Government web portal were

⁵ “Update on Implementation of Digital 21 Strategy and the E-government Programme,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 2034/06-07(03), 9 July 2007, p.7,

<<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0115cb1-670-3e.pdf>>

⁶ <http://www.gov.hk/en/about/os_residents.htm>

⁷ <<http://www.info.gov.hk/forms/>>

still approximately 450 short of the total number of e-forms available. The "Government Form" page in the Government portal should also include all forms of the Government in one single page as soon as possible.

- iv Governments should take usability of the portal seriously. Empirical studies have concluded that improving the usability of government portal sites require a focus shift from system to user in both research and design.⁸ Currently, the Government portal is categorizing its e-services in accordance with different policy areas. Such an arrangement may impose difficulties to the general public in locating the right e-service they are looking for. The Government portal needs to be enhanced from a “user experience” point of view to support better navigation, search and personalization.

2. Solutions

a. An integrated portal with full-ranged of e-services

- i. Some government departments excel in the provision of e-services, such as the e-tax services and e-stamping services provided by the Inland Revenue Department. They have provided registered users a wide range of electronic services and transactions in relation with their salaries tax and stamp duties account in one single portal, including filling tax returns, payments, checking records of payments and tax returns, and the calculation of an estimated tax return (see www.gov.hk/etax). The examples from the Inland Revenue Department could serve as a model for the Government services.
- ii. A genuine application of user-orientated principle in the course of revamping e-government services through wider application of ICT technology shall be adopted.
- iii. **The Government shall expand the online services website to be a one-stop gateway for all e-government services. Government websites should be transformed from the existing mode of serving mainly the dissemination of information to a new platform which can facilitate users to proceed to the**

⁸ “Designing Government Portal Navigation Around Citizens’ Need” (2006), in M.A. Wimmer et al. (Eds.): EGOV 2006, LNCS 4084, pp.162-173, 2006.

next step of actions after they have obtained the information from the websites. By doing so, the web visitors can then deal with the Government in electronic means in the areas of:

- e-complaints/e-report;
- e-applications/e-registrations/e-renewals;
- e-enquiries;
- e-payments/e-bookings; and
- e-form submissions.

b. From one person, multiple accounts to one account, multiple services

- i. **To create a more user-friendly environment, the Government should adopt a single and personalized “e-account” system on government services**, under which individual citizens will be offered a single user account with sound security mechanism to access multiple government services.
- ii. **Each user or an individual business can customize his/her own MyGov page through selecting government services and information he/she needs out of a range of such services.** Some countries have already adopted Web 2.0 technology to enable a more personalized web environment to facilitate e-communication with their citizens. The “directgov” website in the UK (www.direct.gov.uk) and the “eCitizen” website (www.ecitizen.gov.sg), and the “Singpass” personalized account (www.singpass.gov.sg) from the Singaporean government provide single and personalized e-account services, could serve as good examples.

The UK Government has provided a one-stop service portal on the Internet known as “Direct Gov”. By clicking the “Do it online” section (<http://www.direct.gov.uk/en/Di011/DoItOnline/>), users can conduct online transactions with government, submit forms and access tools in a single website. Government services available can be categorized into ten different themes: crime, justice and the law; education and learning; employment; environment and greener living; government, citizens and rights; health and well-being; home and community; money, tax and benefits; motoring; and

travel and transport. The services related to these themes are clearly listed in the sub-themes after users click on the links for the sub-themes for easier accessibility. The website also targets the needs for different groups of people, for example, young people, Briton living abroad, people seeking to contribute in charities and community services, disabled people, those are over 50 and parents, etc.

Citizens of Singapore can apply for a SingPass, which stands for "Singapore Personal Access" to conduct e-services from the Singaporean Government under one single account. They will be offered a username and common password to transact with the Government online on various kinds of services. For example, the e-services that can be accessed with the SingPass include encashing the Economic Restructuring Shares, viewing one's Central Provident Fund Statement of Account, registering one's company, filing one's income tax, and many other online services available at the eCitizen online portal (www.ecitizen.gov.sg).

The Malaysian Government also provides a dedicated page for its citizens on e-services. A registered member will be able to personalize the content of this page to suit individual needs and preferences. Other e-services provided in the dedicated page include:

My Favourite Links is divided into 2 sections; Government Links and Online Services Links. These are lists of government web sites and online services which can be dragged to citizen's personal webpage.

My Online Transactions that lists the online service transactions performed over the past 6 months by a registered member for easy reference.

My eDocuments will allow direct upload and store documents (e.g. copy of ID, passport-sized photo etc) to the myGovernment portal. These documents are usually needed as supporting documents when transacting with the various government agencies online.

Messaging Center will enable registered members to send and receive messages to and from government agencies for various enquiries on government related matters.

Community Services provides e-channel for service subscription and

e-communications.

Alert Services will send e-mail alert to subscribers when new messages arrive their My Message Box or when new online services are available on the portal.⁹

- iii. With a single sign-on e-account, citizens or businesses will have a coherent and convenient interface to access Government e-services. They do not need to memorize different password for different services. **We also need a coherent security protection policy for the government services accessible from the e-account. It is suggested that a multi-level access control is used. For less sensitive services like enquiry or book loan, only a PIN is required. When a user needs to access more sensitive services like transactions, two-factor authentication should be employed** -- the user is prompted to authenticate a second time by either presenting a digital certificate or entering a one-time password transmitted by SMS.
 - iv. **The e-account can provide a service similar to “My eDocuments” of Malaysian government portal. User could be allowed to selectively store the e-version of frequently used personal government-issued documents in advance in their personalized accounts, for example, identity card, driver’s license, public examination records, etc. With such an arrangement in place, the users can simply embed the related documents to the designated departments when they file the e-applications, or e-forms, etc.** Proper security measures have to be in place to secure the access and data, e.g. encryption and two-factor authentication.
 - v. The Government is launching the “Unified Identity Management Framework”. We hope it will solve the problem mentioned above. Priority should be put in new systems and systems with have heavy use.
- c. Re-design the government portal from the perspective of user’s experience**
- i. At present, the e-services provided by the Government are simply listed in a single directory which appears to be confusing and cumbersome. Other means

⁹ <<http://www.gov.my/MyGov/BI/Registration/WhyRegister>>.

on improving the web design can be considered, for example, dedicated mini-websites for different areas of e-services similar to the government portal of Singapore.

- ii. Government websites should be more “user friendly”. **Rather than only categorizing the e-services of the Government by policy areas, the Government shall also categorize its e-services from a user’s purposes of visiting the portal**, i.e. according to a functional division of e-services, such as e-complaints/e-reports, e-enquiries, e-applications/e-renewals/e-registration, e-bookings, e-payments, e-messages, e-transaction records, e-subscription//ticketing, etc.
- iii. The Government could also allow users of the personalized account to selectively store the e-version of frequently used personal government-issued documents in advance in their personalized accounts to streamline the e-application process (see para. III. A. 2. b. iv).
- iv. **Government websites should be more accessible, such as providing audio clips in multiple languages for citizens using different languages, to meet the diversified needs of the community.** Government should maximize the benefits of the portal with more useful contents.
 - For example, “virtual tours” of the museums can enhance the efficiency in teaching and learning; “virtual tour” of scenic spots can promote Hong Kong to visitors; and streaming video of seminars organized by government department (e.g. Support and Consultation Centre for SMEs can benefit the public who could not attend the valuable seminars and save government expense in organizing repeated seminars.
 - Providing all government forms in electronic format and enabling online submission for all these forms.

d. Enabling a 24-hour government by electronic communication

- i. For the sake of easy enquiry, a telephone contact list for different services provided by respective bureau/department is available at the Government website. For example, the Trade and Industry Department has provided a comprehensive

telephone list of the various services it provides¹⁰. **As the telephone enquiries and services are constrained by office hours, it would be advisable for the Government to provide email contact list or online inquiry forms for more direct enquiries and contact in different services, in parallel with the telephone contact list.** This would enable citizens to make round-the-clock contact with the different departments of the Government, without the restrictions of office hours of the office in the case of telephone enquiries.

B. e-Engagement

1. Present Situation

- a. Involving communities in government decision-making is a necessary requirement for a strong and healthy democracy. e-Engagement provides opportunity to better discovery issues important to the community, increase the satisfaction and trust of citizens to the government, achieve cost saving of government agencies and enhancing risk management. Furthermore, the new generation is more comfortable engaging with government through the online environment.
- b. However, the Government has been slow in adopting measures for meeting the growing civic society and community expectation of greater involvement and higher interactivity in public policy making. This is reflected in the e-Government policy. The Government portal has no comprehensive and interactive web strategy to engage the public.

2. Solutions

- a. **The Government should facilitate e-participation as part of the roadmap towards the democratization of Hong Kong.** Greater efforts should be paid to strengthen engagement via electronic means.

¹⁰ <<http://www.tid.gov.hk/english/aboutus/tel/tel.html>>.

- b. **A better leveraged ICT platform will allow the government to establish a “one-stop” consultation and engagement web portal for all Government consultations encompassing different policy areas.** Not only can consultation documents be released in parallel at the engagement platform on the web, members of the community will be better informed and therefore be capable of making more timely response.
- c. **The Government can expand the scope of public engagement through expanding the currently Internet-based “Public Affairs Forum” (www.forum.gov.hk) to all citizens or establish a broader based forum for public engagement.** The Forum has been heavily criticized on its exclusivity of access to those 500 people (most of them with a “middle class” background), the lack of responses from the officials of the Government on the web, and whether the opinions expressed in the Forum are being heard by the Government is in question.¹¹ The Government could study the example of the “Reach” website of the Singaporean government (www.reach.gov.sg), which provides a one-stop consultation and engagement platform on the web.

The “Reach” website is a one-stop engagement platform of public policies and issues from the Feedback Unit of the Singaporean Government on the Internet. It allows users of the website to post discussion topics in the forums, as well as providing a one-stop portal for all electronic versions of consultation papers and conducting e-polls.

- d. **E-petition should also be allowed through the “one-stop” consultation portal** ◦ Citizens can file reports of faults and misconduct of public services anonymously or through the dedicated e-account. The “Petition to the Prime Minister” portal of the UK Government could set as an example (petitions.pm.gov.uk).

The Prime Minister’s Office of the UK has provided a “Petition to the Prime Minister” webpage in its website, which allows citizens, charities and campaign groups to set up petitions that are hosted on the Downing Street website, enabling anyone to address and deliver a petition directly to the Prime Minister, subject to the meeting of terms and conditions. Since its establishment in

¹¹ 13 May 2005, *Ming Pao*, p. A11.

October 2006, over 29,000 petitions have been submitted, of which over 8,500 are currently live and available for signing, and over 6,000 have finished. There have been over 5.8 million signatures, originating from over 3.9 million different email addresses. (<http://petitions.pm.gov.uk/>) \

- e. The provision of web 2.0 function of “drag-and-drop” of e-Government services would allow e-engagement tools to be dragged and dropped to personal accounts.
- f. Rather than simply giving a link to the email address of the Government bureaux and departments, **direct communications channels could be established via the bureaux/departments websites so that citizens can interact directly with responsible officials such as through blogs, email or instant messaging.**
- g. To provide an easier and more convenient access of Government information to researchers, students, and the general public, **the Government should digitalize all Government documents that are already opened to public, and provide a one-stop portal for government document retrieval**, similar to the “Full List of Particular Policy Issues” in the Legislative Council website. (<http://www.legco.gov.hk/database/english/full.htm>).

C. e-Procurement

- 1. As indicated by the Government, the implementation of an e-procurement system is now put to low gear. According to the e-Procurement Pilot Programme, the e-procurement functions will be initiated progressively in three pilot departments from 2008 to June 2009, and a review would be conducted six months after the full operation of the programme.¹² Hence, the full implementation of the e-procurement system would be in 2010 at the earliest. **We therefore urged the Government to speed up the process of e-procurement and to provide a wide range of digital service via the Internet.**

¹² “Update on Implementation of Digital 21 Strategy and the E-government Programme,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 2034/06-07(03), 9 July 2007, <<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0115cb1-670-3e.pdf>>.

IV. Tackling Digital Divide

A. Present Situation – Study after study, deferral after deferral

1. Tackling digital divide has long been a policy initiative to enhance social inclusiveness but the progress is far from satisfactory. Time and efforts have been spent on continuous researches which have not translated into concrete actions and policy measures. After the completion of a Government commissioned year-long study conducted by the University of Hong Kong, (hereafter HKU) which created a “Comprehensive Digital Inclusion Index” as its end product, the Government once again commissioned the research team in 2007 to undertake another study to examine the barriers preventing the disadvantaged groups from the greater use of ICT. The Government also stated that the research findings and recommendations would be considered by a related “task force” in the course of formulating a strategy and initiatives for digital inclusion.¹³ However, the establishment of the task force has repeatedly delayed.
2. The long-awaited task force has not come into operation yet. In January 2007, the Government informed the Legislative Council that the “Task Force on Digital Inclusion” will be established in 2007.¹⁴ In July of the same year, it continued to state that the task force would be established in 2007, but the date of establishment had been postponed to the end of the year.¹⁵ In December 2007, the Government further delayed the establishment of the Task Force to early 2008, saying that other than findings of local studies, international benchmarks will be taken into account by the “task force”.¹⁶ The first quarter of 2008 has been passed, but there is no sign that the Government will proceed the formation of the task force.

¹³ *Ibid.*

¹⁴ “Report on the Progress Made in Implementation of Previous Digital 21 Strategies,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 670/06-07(03), 15 January 2007, <<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0115cb1-670-3e.pdf>>;

¹⁵ “Update on Implementation of Digital 21 Strategy and the E-government Programme,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 2034/06-07(03), 9 July 2007, <<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0115cb1-670-3e.pdf>>;

¹⁶ “Building a Digitally Inclusive Society,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No: CB(1) 441/07-08(01), December 2007.

3. Despite the fact that Hong Kong is leading the world in the accessibility of ICT facilities for the general public (and providing them in low costs),¹⁷ the applications of ICT facilities for the digitally deprived, their knowledge in using ICT facilities, and the willingness to adopt ICT facilities to transform the quality of life in the underprivileged groups remains to be poor. The “Comprehensive Digital Inclusion Index” suggested that the elderly is the most disadvantaged group on digital inclusiveness, followed by the persons with disabilities, the female homemakers aged 35-39 and with a level of education at/below primary six. The single parents, new arrivals and children of low income families ranked fourth, fifth and sixth in terms of the degree of digital disadvantaged.
4. In mid-2007, the HKU research team had provided some initial findings and identified some issues in which the digitally disadvantaged were facing in their use of ICT technologies, for example:
 - The elderly: they are “lack of ICT knowledge and skills” and “accessibility is still a concern”;¹⁸
 - Students are difficult to access the computers in public libraries ;¹⁹
 - Some students: “cannot afford the monthly Internet service charge and cost of software, while others find difficulties in respect of the maintenance and repair of computers”.²⁰
5. Following the findings from the research studies, the Government has identified six groups as having inadequate access to ICT in Hong Kong, including: the elderly, persons with disabilities and/or chronic illness, female homemakers, single parents, new arrivals, and children of low income families. The needs of these six groups have been summarized into three types of digital divide by the Government, including: access divide (on access to ICT facilities and connectivity), usage divide (on the skills to use the facilities) and usage quality

¹⁷ Hong Kong ranked 3rd out of about 180 economies worldwide in the “2007 ICT Opportunity Index” of the International Telecommunications Union. See “Building a Digitally Inclusive Society,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No: CB(1) 441/07-08(01), December 2007.

¹⁸ “Building a Digitally Inclusive Society” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 441/07-08(01), December 2007, <<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0709cb1-441-1-e.pdf>>.

¹⁹ “Update on Implementation of Digital 21 Strategy and the E-government Programme,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 2034/06-07(03), 9 July 2007, <<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0115cb1-670-3e.pdf>>.

²⁰ “Update on Implementation of Digital 21 Strategy and the E-government Programme,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 2034/06-07(03), 9 July 2007, <<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0115cb1-670-3e.pdf>>.

divide (on how people use ICT to transform their lives).²¹

6. In view of the significant jump in the e-readiness of Hong Kong as suggested in the recent publication of the “2007 e-readiness Index” , and in view of the further provision of services electronically between businesses and the Government in the future, the six groups identified as digitally disadvantaged by the HKU research team are expected to face further difficulties in its accessibility and the quality of its usage. However, government’s policies in tackling the “usage divide” and “usage quality divide” are apparently lagging behind its advanced development in the accessibility of ICT tools.
7. We believe that the HKU research team had already mapped out a set of recommendations on tackling digital divide. The Government should at least implement part of its recommended measures at once rather than waiting for the establishment of the task force and further waiting for the result of another round of research and study.

B. Solutions

1. Principles

- a. The increasing use of ICT tools would make the current “digitally deprived” even feeling more alienated to access, and their willingness to use ICT tools would be further undermined. Hence, **promotion of ICT application and deployment must be complemented with the principle of making ICT facilities accessible to the underprivileged.**
- b. **Targeted measures using different ICT tools shall be developed to cater for the needs of the six different underprivileged groups. Improving the quality of life should be accorded higher priority, rather than enhancing ICT literacy.**

²¹ “Speech by FS at International Telecommunication Union TELECOM WORLD 2006 Forum (English only),” Press Release of the Government, 4 December 2006, <<http://www.info.gov.hk/gia/general/200612/04/P200612040122.htm>>

2. Alternatives beyond personal computers and Internet

- a. ***Broadening the scope and tools of “digital” and “ICT”***: It would be important to break away from the “traditional” mentality of confining computers and Internet as the only tools for promoting the use of ICT. Telephone and digital television is expected to be a powerful tool of ICT in the near future. Telephone and television will have a more important role to play as they are basic electronic ICT tools in domestic households and related ICT infrastructure, i.e. the fiber optics cables has been in place which helped to connect many families with the digital world. The introduction of new digital devices might help materialize the e-connectivity of those deprived families.
- b. ***New opportunities 1 – Multimedia services through screen telephone***: Telephones with video screens can serve as a new platform for the provision of government services. Aided by visual image from the screen and voice in those phones, even the elderly or people of low education level will find these “high-tech” ICT tools more user-friendly. The elderly, the physically impaired and the female homemakers are the three categories of people who are most likely to be reluctant to learn and use “advanced” ICT tools like computers for the sake of using government services.²² In order to break the digital exclusion from these three groups of people, the Government may collaborate with telecom providers for the provision of video-screen phones, so that the underprivileged could access information and electronic services by the Government through the new type of phones.
- c. ***New opportunities 2 – Government services through Digital TV***: The Government should also consider the provision of e-services in the newly-established digital TV platform. In fact, the Government has already suggested that the digital TV services could be developed as an “interactive” (two-way) service, which would enable viewers to send their response back to the broadcaster via the cable, and even subscribe government service directly. **The Government should start prepare for the adoption of the new mode of interactive services through the digital TV by establishing a dedicated government services channel now. Those services should be available as soon as possible and be fully accessible across the territories when the TV signals become “digital-only” by 2012.**

²² They were also the most digitally disadvantaged groups as suggested in the “Comprehensive Digital Inclusion Index”.

The UK Government has provided a range of e-government services on the digital TV platform. The range of services provided is similar to the range of services as provided in the web. The information are designed for and provided specifically for TV.²³

- d. ***Outdoor “Personal Emergency Link” services:*** To improve the personal safety of the elderly, we recommended the Government to subsidize the development of the “Personal Emergency Link” services currently provided by the “Senior Citizens Home Safety Association” for outdoor use. Through incorporating the GPS/GSM /Wi-Fi positioning technologies, the “Personal Emergency Link” can help locate the senior citizens in outdoor areas, particularly those calling for assistance. **The research laboratory of the Hong Kong Polytechnic University has recently developed a set of three electronic devices adopting the latest ICT technologies to address the safety concerns of the elderly in both indoor and outdoor settings. The Government should facilitate the use of such devices among the elderly in need of such devices, through the funding and promoting of its use with the Senior Citizens Home Safety Association.**

In November 2007, the Hong Kong Polytechnic University announced that it has developed three electronic devices using the latest ICT technologies to facilitate the provision of assistance to the elderly during emergencies.

One of the devices the researchers has developed is a portable device using advanced telecommunication technologies of global positioning, cellular phone and radio-frequency beacon to help accurately and efficiently locate a missing person with dementia in both indoor and outdoor settings.²⁴

- e. ***Free provision of computers to deprived school-attending children:*** A small number of families with school-attending children are still suffering from “access divide” in Hong Kong. **In 2005, there were still 7% and 4% of primary school and secondary school children respectively do not have computers at**

²³ <http://www.directgov.gov.uk/en/H11/Help/DG_072746>.

²⁴ “PolyU unveils new TeleCare Technologies,”
<http://www.polyu.edu.hk/cpa/polyu/hotnews/details_e.php?year=2007&news_id=1371>

home.²⁵ **It would be important to address the developmental needs of the school children and low-income families to eradicate cross-generational poverty.** We believe that Hong Kong should also follow the examples of Singapore in eradicating the “access” divide among school-attending children, by setting a 100% computer ownership target in homes with primary and secondary as well as university students in the near future. **The Government can strengthen the current “Computer Recycling Scheme” for the achievement of 100% ownership among school-attending children. The Government can also collaborate with major software companies to provide a range of subsidized software, and promoting the use of free open source software.**

The Singaporean Government has set the target of “90% of the home using broadband” and “100% computer ownership in homes with school-going children” in its 10 year ICT masterplan in 2005.²⁶

- f. ***Free Internet access:* The Government should also include Internet access through broadband in the Comprehensive Social Security Assistance scheme. The Government shall provide free Internet access and free computers for the school children in the “working poor” not receiving CSSA.**
- g. ***Longer opening hours:* Computer rooms in public libraries especially those in the areas with high concentration of the digitally deprived, and in the district digital centres in as suggested in the 2008-09 Budget should extend their opening hours in order to accommodate the needs of the users. It would be of equal importance to provide on-site tutors and technical staff to answer user questions and fix the computer system.**
- h. ***More targeted measures for the physically impaired:* The problem of all three kinds of digital divide might exist for the physically impaired. We notice that the Government portal has incorporated functions for the visually impaired, including large font size web pages, and advices on assistive tools such as screen readers or screen magnifying software. The web site also provides web accessibility guideline to web site designers. The Government can consider setting up a fund to finance the development of tools and equipments to**

²⁵ “Report on the Progress Made in Implementation of Previous Digital 21 Strategies,” Paper presented to the Legislative Council Panel on Information Technology and Broadcasting (LC Paper No. CB(1) 670/06-07(03), 15 January 2007,

<<http://www.legco.gov.hk/yr06-07/english/panels/itb/papers/itb0115cb1-670-3e.pdf>>;

²⁶ See <http://www.igov.gov.sg/Strategic_Plans/iGov_2010/iGov2010.htm>

assist other physically impaired to access computers, as well as to fund the physically impaired to purchase equipments for facilitating their use of ICT facilities.

- i. ***Problem identification for various digitally deprived groups:* The Government shall conduct cross-matching exercises between the six categories of people identified as digitally deprived, and the three types of digital divide as identified by the Government.**

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e-Government and Better Governance in Hong Kong

Research Report

Advisory Board Members

Mr S C Leung

Mr Charles Mok

Mr Francis Fong

Dr. Robin Bradbeer

Research Team Members

Mr S C Leung

Mr K M Chan

Mr Kelvin Sit

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