

**Public Accounts Committee
Chapter 8 of the Director of Audit's Report No. 66
Procurement and inventory management of
ICT products and services
Supplementary Information requested**

The Office of the Government Chief Information Office (“OGCIO”)

Part 2: Procurement of information and communications technology (“ICT”) products and services

1. According to paragraph 2.4, the Government was expected to be benefited from e-Procurement: improving efficiency and effectiveness by reducing the procurement cycle time, improving quality and accessibility of procurement information, reducing human errors and enhancing traceability, reducing transaction cost, and reducing purchase prices through consolidating and aggregating purchases across Government bureaux/departments (“B/Ds”). In this connection, will the administration inform this Committee whether it has assessed the e-Procurement programme about the said benefits? To what extent the B/Ds with e-Procurement implemented have benefited from the programme so far? (please provide supporting statistics, if any).

Reply:

Subsequent to the implementation of e-Procurement in three pilot departments, a review of the e-Procurement programme was completed in 2012 (see paragraph 2.6 of the Audit Report). The review confirmed that the expected benefits were achieved as follows:

- improved efficiency and effectiveness – E-Procurement eliminated the lead time for dispatching paper-based files from one location to another, hence the ordering cycle time was reduced by a few days to one week per case;
- improved quality and accessibility of procurement information, reduced human errors and enhance traceability – procurement activities were initiated, approved and recorded through the electronic workflow with appropriate authority checking in accordance with the Stores and Procurement Regulations and departmental procurement guidelines, and

hence human errors were reduced and quality improved. Procurement information from requisition to certification of receipt as well as authorisation records was readily available for retrieval and hence improved accessibility and traceability. Over 70% of the survey respondents agreed or strongly agreed that such improvements had been achieved;

- reduced transaction cost – there were annual fragmented, notional savings of \$2.36 million for the three pilot departments, arising from reduced manpower effort in procurement activities; and
- reduced purchase price through consolidating and aggregating purchases across departments – there were such savings arising from the e-Procurement per se, but they were not significant because the Government had been aggregating purchases for many years and had proactively identified stores items that had high potential for bringing forth benefits when purchased in bulk volume. Bulk purchase contracts had been arranged whenever appropriate.

In September 2015, OGCIO further collected feedback from the 8 B/Ds which had implemented the full function of e-Procurement as at that moment. Their feedback revealed that e-Procurement had achieved benefits including but were not limited to automated processes, improved work efficiency, cost reduction, better procurement control and compliance, better management of procurement records, and reduced paper consumption.

2. As far as e-Procurement programme is concerned, up to 31 October 2015, \$80.1 million had been spent for the development and implementation of e-Procurement; however, only 10 of the some 70 B/Ds had implemented the full function of e-Procurement as of late December 2015 (paragraphs 2.8 and 2.10 refer). Audit found that the Customs and Excise Department (“C&ED”) and the Highways Department (“HyD”) had not implemented the full function of e-Procurement as not all suppliers or service providers had joined e-Procurement. The Financial Services and Treasury Bureau also considers that tight recurrent resources is unlikely to be the major reason underlying B/D’s slow roll-out of the full function of e-Procurement. In these connections, will the Administration inform this Committee the

reason(s) for the majority of B/Ds had not implemented the full function of e-Procurement? What measures will OGCIO take to attract more B/Ds to implement the full function of e-Procurement? How many B/Ds have now implemented the full function of e-Procurement? What is the timetable for the implementation of e-Procurement in the other B/Ds? What would you do if the number of B/Ds using the full function remains on the low side?

Reply:

It should be noted that the said \$80.1 million covered both the development of full function and SOA function of e-Procurement. As at mid-May 2016, close to 70 B/Ds have implemented the SOA function whereas 11 B/Ds have implemented the full function.¹ Another B/D (i.e. the 12th B/D) will implement the full function by July 2016.² Our target is to have 30 B/Ds implementing the full function by the end of the financial year 2017-18.

According to our liaison with B/Ds over the past year, there are various reasons for not implementing the full function. These reasons include the need to bear recurrent costs, limited internal resources (mainly staff resources) available to effect the change and provide ongoing support for the use of the new system. These are also reflected in the Audit Report (Paragraph 2.14), which states “*Audit also found that the C&ED and the HyD had not implemented the full function of e-Procurement because:*

- (a) *They had concern on the annual contribution payable;*
- (b) *Additional resources (e.g. regular training and helpdesk service to be provided to users) would be required to handle e-Procurement transactions; and ...”*

OGCIO will conduct a survey in June 2016 to request B/Ds to provide their plans for implementing the full function of e-Procurement and, failing that, the reasons and justifications. Based on the result of the survey, OGCIO will take appropriate measures to attract more B/Ds to implement the full function. Meanwhile, OGCIO will continue to promote both tangible and intangible benefits of e-Procurement to B/Ds.

While OGCIO endeavours to achieve the target of having 30 B/Ds implementing the full function of e-Procurement by the end of the financial

¹ The 11th B/D that has implemented the full function of e-Procurement after publishing of the Audit Report is the Treasury.

² The 12th B/D is the Audit Commission.

year 2017-18, we will keep track of the computing resources usage and acquire the corresponding quantity of resources on the cloud environment, which will enable OGCI0 to minimise the amount of potential deficit incurred by the e-Procurement programme in case the target of 30 B/Ds could not be fully met.

3. Audit found that there were large discrepancies between ICT expenditure of some B/Ds included in the expenditure published by OGCI0 and the actual ICT expenditure of these B/Ds. Audit also noted that of the four departments, only OGCI0 had planned and replaced its obsolete computers and related software on a continual basis (paragraph 2.35 refers). In these connections, will the Administration inform this Committee about the current policy on replacement strategies for ICT products among B/Ds? Is the current policy based on an across-the-board approach treating every B/D alike or on a flexible approach subject to the circumstances and needs of each B/D? Has the Administration set any specific targets on phasing out obsolete computers and related software among B/Ds? If it has, on what basis did the Administration set the specific targets; if it hasn't, the reasons? To facilitate OGCI0's monitoring on the software replacement conducted by B/Ds, will OGCI0 consider publishing an annual list of the software which should be phased out and requesting B/Ds to replace the software accordingly? Since the Government Chief Information Officer agrees to consider issuing guidelines to B/Ds to facilitate their drawing up of replacement strategies for ICT products (paragraph 2.37(c) refers), what is the timetable for implementing this initiative?

Reply:

B/Ds, as owners of their computer systems and software, have the primary responsibility to develop and maintain their strategic IT plans for effective delivery of public services. B/Ds should draw up departmental IT plans, including the re-development and/or replacement of IT systems, to meet their business requirements and keep their plans up-to-date through regular reviews. It should be noted that an "across-the-board" approach for replacement of ICT products is normally not feasible because the ICT products being used in a B/D are unique and inter-related. Replacing a product may cause compatibility issues with other products, and the IT system must be comprehensively tested before a product can be replaced.

The potential compatibility issues and testing time vary from B/D to B/D.

B/Ds will take into consideration the business requirements, security requirements and cost-effectiveness of maintaining the respective systems to formulate plans and set targets for the replacement or re-development of computer system and software. For hardware and software products that are commonly adopted in the Government, for example, Windows-based desktop and notebook systems and Microsoft office productivity tools, OGCIO publishes guidelines and notice on de-supported software for B/Ds to formulate their computer system upgrade or replacement plan. OGCIO sets targets and coordinates government-wide technology replacement programme. OGCIO will continue to publish information on de-supported software to facilitate B/Ds in planning for their computer system upgrade/replacement, and request B/Ds to submit annual return on the IT project portfolios in their departmental IT plans.

For technologies and computer systems that are used by individual B/Ds, B/Ds need to be vigilant about their timely upgrade or re-development such that the systems can continue to achieve their original objectives with maintenance support. OGCIO will develop relevant guidelines for B/Ds' reference by end August 2016.

Part 3: Control of ICT inventories

4. Audit found that up to 30 November 2015, 107 (11%) of 1 009 selected ICT inventory items had not been located by the departments concerned. The cost of these missing items amounted to some \$451,000, while 32 (30%) of the 107 missing items were embedded with data storage devices (e.g. personal computers) (paragraphs 3.4 to 3.6 refer). Since the loss of data storage devices could be a breach of security according to the Security Regulations, will the Administration inform this Committee about the consequences of the breach (paragraph 3.6 refers)? Of the 107 missing items embedded with data storage devices, whether it is found that sensitive or confidential information was stored in those devices, please provide the details (paragraph 3.6 refers). What remedies have been taken to the parties affected due to the missing data storage devices? As the ICT inventory records of C&ED, the Environmental Protection Department ("EPD") and

HyD were not properly kept (paragraph 3.11 refers), what steps have been/will be taken to improve the situation?

Reply:

Out of the 107 missing items, five items at a total amount of \$27,701 belonged to the OGCIO. Among these five missing items, which include one PC, two CPU Processors, one Internal Tape Drive and one Monitor, only the PC was embedded with data storage device but the item was obsolete and unserviceable. The hard disk of the PC concerned had been removed and degaussed when the PC was retired from service. Therefore, the loss case does not constitute a breach of security according to the Security Regulations. The keeping of inventory records by C&ED, EPD and HyD will be addressed by the departments concerned.

Part 4: Disposal of ICT products

5. According to the Government Chief Information Officer, OGCIO will review the existing guidelines to require B/Ds to keep proper records on sample checks of erased storage media for compliance audit (paragraph 4.30 refers). What is the timetable for the review? The Government Chief Information Officer says the OGCIO will also develop a sample of data erasure certificate for B/Ds' reference. What is the progress of this work? Will OGCIO establish a centralized system to record the ICT inventories held by B/Ds and periodically conduct ageing analysis of ICT inventories to review their condition and serviceability, so that OGCIO can remind B/Ds to timely dispose of the obsolete inventories in advance?

Reply:

The review of the existing guidelines to require B/Ds to keep proper records on sample checks of erased storage media for compliance audit is in progress and will be completed by end June 2016.

As the owners of their ICT systems, individual B/Ds have the primary responsibility for managing their ICT systems, including their obsolescence, timely update and timely disposal. B/Ds are required to keep inventory records and formulate their system re-development/replacement plan on a regular basis through the formulation of department IT plan.

OGCIO has promulgated the Government Technology and System Architectures (GTSA) framework in November 2015 to ensure consistency and facilitating the planning, defining, maintaining, and documenting the IT strategies across the Government. We have also implemented a central repository for B/Ds to keep records of their computer systems and software, and provide B/Ds with information on those computer software products that are approaching their end-of-support phase.

OGCIO, instead of establishing a centralised system to record the ICT inventories held by B/Ds, will continue to conduct surveys to obtain information on major software in use by B/Ds in their major ICT systems, and alert B/Ds to software support that will soon be discontinued by software vendors and also provide support services to facilitate software replacement. This will facilitate B/Ds in drawing up their replacement strategies for ICT products having regard to technology advancement in a timely manner.

Part 5: Provision of apps

6. According to Audit, the number of downloads of some apps for one-off events had been disappointingly low (paragraph 5.14 refers), some of the apps were catered for specific targeted users and did not have broad appeal, and some apps were virtually duplications of B/Ds' websites (paragraph 5.7 refers). Will the Administration inform this Committee the current policy of Government apps development? For the sake of upholding the very principle of cost-effectiveness and value-for-money, do OGCI's guidelines provide clear and objective standards for B/Ds to decide if a Government app shall be developed (paragraph 5.5 refers)? Will OGCI introduce any measures or guidelines, so as to justify the cost-effectiveness of developing apps for one-off events or specific targeted users, as well as to advise B/Ds with low website hit rates to develop mobile version of websites instead of developing apps to duplicate the websites; if yes, please provide the details? Does the Administration have any plans to introduce preliminary assessments and vetting procedures to examine whether a Government app shall be developed and the amount of budget should be allocated for developing the Government app?

Reply:

With a population attuned to the latest technologies, the Government sees great potential in applying mobile technology to the delivery of government information and services. The Government has been proactively launching quality e-government services, with a view to bringing convenience to and improving the quality of life of the public. The development of mobile apps enhances and supplements the functions which cannot be comprehensively provided by websites, enabling the public to access the Government's information and services anytime and anywhere in an instant and user-friendly operational environment.

Depending on their respective operational needs and modes of service delivery, B/Ds could decide if and how they should develop a mobile app. To assist and support them in developing apps that are practical and user-friendly, the OGCIO has formulated a practice guide for B/Ds' reference. The practice guide provides B/Ds with a roadmap for mobile app development, setting out necessary steps involved. For instance, at the design stage, B/Ds should make proper use of various mobile device features, such as camera, Global Positioning System and push notifications.

The practice guide has also listed out some Do's and Don'ts for B/Ds' reference in developing mobile apps. It does advise that website content should not be copied to the mobile app direct. The practice guide also indicates that if the mobile app is for information only, B/Ds should consider developing a responsive website that can serve both web and mobile users, among other recommendations. The guidelines advise B/Ds to:

- evaluate the cost-effectiveness of the mobile app;
- review the use of the mobile app regularly to ensure target users' needs are met; and
- do not merely focus on the layout and look of the mobile app since its functionality is more important.

As a general principle, developing a mobile app for a one-off event is not recommended under normal circumstances.

At present, when an application for developing a mobile app is submitted to the Administrative Computer Projects Committee (ACPC) established under OGCIO for approval of projects under Computerisation Block Allocation (i.e.

project cost greater than \$200,000 and not exceeding \$10 million), OGCIO would assess and vet the application having regard to the practice guide on various aspects of the development projects, for example, the justification of benefits claimed, and the possibility of utilising app templates or integrating with platform apps to reduce development costs. B/Ds are required to follow up on the suggestions and advice given by OGCIO.

7. It is stated in OGCIO's good practice guide that a B/D should promote the app it developed to let more people use it (paragraph 5.8 refers). Apart from listing the apps on "GovHK Apps" and the GovHK website, what other strategies and efforts have been formulated and taken to better promote Government apps? Has the Administration conducted any reviews to assess the effectiveness of these strategies/efforts in promoting Government apps? Will OGCIO update its good practice guide to advise B/Ds that it is an important factor to develop apps which can provide most updated information to the public?

Reply:

A mobile app called GovHK Apps was launched in August 2012 to serve as a one-stop platform listing out all Government mobile apps to facilitate the public to search and download these apps. OGCIO has also taken various measures to promote public's awareness of mobile apps developed by B/Ds, including publishing a booklet on government mobile apps, producing exhibition boards for display and making feature videos to publicise the great variety of government mobile apps that cater for different needs, and encourage the public to download and use them. Besides, newspaper columns on specific government mobile apps have been written to enhance public understanding of the apps.

We will also continue to list the apps on "GovHK Apps" and the GovHK website, which are effective for promotion. As at 29 February 2016, the total number of downloads of "GovHK Apps" was 162 035 times, while the GovHK mobile website recorded 677 980 average monthly visits. With the orchestrated promotion and publicity efforts by the B/Ds, public awareness and usage of government mobile apps have increased, as attested by the steady rise in download rates. To ensure the mobile apps developed by B/Ds are effective in meeting their respective objectives and user demands,

the practice guide will be reviewed and updated from time to time to provide them with the necessary professional guidance and support, including technology changes.

8. Are there any objective criteria to ascertain that the Government apps are value for money? If there are, please provide details, using “WSD Mobile App” as an illustration. If there are not such criteria, whether OGCIO will consider developing such criteria.

Reply:

It is difficult to assess the value-for-money of a mobile app or against other apps. The development cost is affected by a number of factors including the scope of functions and services, security and accessibility, etc., which also affect the maintenance cost. On the other hand, the number of downloads and convenience brought to its users are dependent upon a wide range of disparate factors like objectives, the size of target group audience/users (e.g. niche group or the wider public), special features, and the unique circumstances underlying the development needs and so forth. Therefore, it is not possible to apply a common set of criteria for the assessment of the value for money to all Government mobile apps. OGCIO will however continue to update the mobile apps practice guide for B/Ds’ reference.