Exploitation of Information Technologies to Deliver Quality Service at a Lower Cost

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Abstract

The Hong Kong Immigration Department plays a vital role in maintaining the security and prosperity of Hong Kong. Its work encompasses many facets of daily life which include providing births, deaths and marriages registration; issuing identity cards and travel documents to some 7 million Hong Kong citizens; enforcing effective immigration clearance to over half a million of travellers daily at immigration control points as well as fighting against immigration-related crimes. Given the stringent resources of the Government, the Department has been facing challenges of the ever-increasing workload as well as the rising public expectation for quality and expeditious services. Exploitation of state-of-the-art information technology to increase the productivity and effectiveness of its business process is imperative in achieving the delivery of quality services at a lower cost. To this end, the Department formulated in 1999 an updated Information Systems Strategy (ISS-2) which comprises 30 separate but inter-related projects to be implemented in 6 years starting from 2001-02. The ISS-2 will enable the Department to adequately meet the growing demands for public services of higher quality, to be delivered at a lower cost and in a more responsive manner.

1.   Introduction

The Hong Kong Immigration Department (the Department) plays a vital role in maintaining the security and prosperity of Hong Kong. Being the major gateway to Mainland China and the regional hub between East and West, Hong Kong has the busiest passenger traffic in the world. Every day, the Department has to handle over half a million

of travellers passing through the immigration checkpoints. While offering expeditious clearance to the travellers, the Department has to be on the vigilance to keeping out the entry of undesirables and terrorists as well as combating immigration-related crimes and human trafficking.

The Department is also responsible for providing birth, marriage and death registrations, issuing Hong Kong identity cards, Hong Kong Special Administrative Region (HKSAR) passports and various personal documentations to 7 million Hong Kong citizens as well as processing of visa applications for visitors, foreign domestic helpers, businessmen and elites. Given the stringent resources of the Government, the Department has been facing challenges of the ever-increasing workload as well as the rising public expectation for quality and expeditious services. Exploitation of state-of-the-art information technology to increase the productivity and effectiveness of its business process is imperative in achieving the delivery of quality services at a lower cost.

2. Strategic Use of Information Technology (IT)

The increasing application of IT in the delivery of public services is a global mega trend. It not only improves the standard and efficiency of services offered to the general public by means of increased productivity of operations, but also helps an organisation to cope with increasing workload without corresponding proportional increase in resources.

Back in early days before 1976, information of arriving and departing passengers was collected through an arrival/departure cards system. Passenger records were captured by punching holes on the "punch card" manually. The matching and compilation of the travel records of residents and tourists by this punch card system was labour intensive. The Department introduced its very first IT initiatives to computerise the matching of the sizeable travel records and replacing the former punch card system in 1976. The computer system, Traffic Index System, provided vital information to help the Department in enforcing effective immigration control.

With Hong Kong's steady economic growth and proximity to Mainland and Macau, the passenger traffic grew rapidly in the 80's. The Department carried out a business process re-engineering at the immigration control points and also developed a computer system to computerise the immigration clearance work at all control points in 1987. With the support of the system, an "Easy Travel Scheme" was successfully implemented so that travellers holding Hong Kong identity card were benefited by dispensing with the need to complete arrival and departure cards. In addition, most Hong Kong residents are only required to present their Hong Kong identity cards for immigration clearance without producing their

travel documents since then.

The Department implemented several IT initiatives before the 90's in different areas of work. It was recognised that productivity gain could be achieved in strategic use of IT. The Department formulated the first Information Systems Strategy (ISS-1) in 1991. The plan enabled the Department to respond more effectively to the demands of the ever-increasing passenger traffic as well as to enhance the service standards provided to members of the public through wider use of IT and business processes re-engineering. The ISS-1 comprised four major systems, the Database System, Office Automation System, the Processing Automation System and the Immigration Control Automation System. The immigration clearance was further computerised and expedited by using new system and optical character reader for reading the data on the Hong Kong identity cards and machine readable travel documents to replace manual input of these data. Not only all immigration applications were captured online for easy record search and retrieval, but all visas, permits, birth, death, marriage certificates as well as payment receipts were computer printouts. All these processing automated functions had highly enhanced the services to the public. The ISS-1, which was implemented fully in 1995, has not only enhanced service standards but also achieved a saving of 613 staff posts.

3.   The Updated Information Systems Strategy (ISS-2)

Information Systems Strategy has been continuously reviewed to keep pace with technological advancements and changes in business environment. In 1999, the Department formulated an updated Information System Strategy (ISS-2) that aimed at enabling the Department to adequately meet the growing demands for high quality public services. The ISS-2, comprised 30 inter-related projects, has been implemented in a phased and structured approach over a period of six years with a view to gaining maximum benefits through synergy effect.

The ISS-2, which is a 6-year programme, has been implemented in phases since year 2001. The roadmap began with the introduction of Smart Identity Card System

(SMARTICS) to issue the Hong Kong Smart Identity Card (Smart ID card) for the whole population of the Hong Kong in year 2003. The Smart ID card is embedded with a chip stored, among others, with our fingerprint template. With the thumbprint templates stored in the chip of the identity card, the Smart ID helped establish the foundation of delivering electronic government service.

Leveraging the infrastructure of smart identity card, the vision of self-service immigration clearance has become a reality. The Automated Passenger Clearance System and the Automated Vehicle Clearance System, often referred to as e-Channels, employ smart card and fingerprint recognition technologies for self-service clearance at control points. The application of advanced technology has revolutionised the immigration clearance processes. With the breakthrough in dispensing with the need for visual inspection by an immigration control officer over the traditional counter, the overall passenger and vehicle throughput can be enhanced to cope with the increasing passenger traffic without augmenting staff resources. Every two traditional immigration counters can be converted into three e-Channels, thus increasing the overall passenger throughput. Besides, one immigration control officer can supervise up to five unmanned e-Channels. Passenger's and driver's waiting time at control point for immigration clearance is largely reduced. As a result, the Department can flexibly redeploy its resources to other areas of more pressing needs.

The Department is planning to introduce an Application and Investigation Easy System (APPLIES) and Electronic Records Programme (ERP) in the latter half of 2006 to shorten the processing time for various services. With the new systems in place, the public can submit applications, book appointments, make payments to the Department through electronic means 24 hours a day and seven days a week. The modernised and centralised

electronic records system will shorten the turnaround time for application processing and minimise the number of documents required to be furnished by the applicants.   The number of their visits to immigration offices can also be reduced with the enhancement of the e-services.   "One-stop" service will be possible for most types of applications.   It will also enable law-enforcement officers to take more effective measures against immigration offenders.   With the digitisation of records relevant to processing of applications under the ERP, the new system will enable business transactions to be conducted electronically in a paperless environment.

In enhancing the productivity and morale of the staff, the Department has set up an intranet to provide electronic channel for fast dissemination of multi-media information and enhances communication among about 6,000 staff.   Management of information relating to personnel, stores and inventory, compilation of duty roster for automated staff deployment at control points has been conducted by electronic means.   The management will also be aided by a Data Warehousing System in their decision making and in the acquisition and deployment of resources.

Through implementation of the ISS-2, the IT applications have been fully integrated into the daily business operations of the Department and become the core components of its public services.   The ISS-2, which is now under way, is anticipated to generate a further saving of 530 posts.

4.   Achievements of Exploitation of IT

        The workload of the Department has increased substantially in the past decade. For instance, the number of passengers examined at our cross-boundary control points (air, sea, land inclusive) has increased by 108% from 92.1 million in 1995 to 191.3 million in 2005. Cross-boundary vehicular throughput has also increased by 73% from 8.4 million in 1995 to 14.6 million in 2005.   Nevertheless, the growth in departmental establishment for the same period fell far short of proportional.   The establishment of the Department only increased by 6% from 5,823 posts as of 1 April 1995 to 6,167 posts as of 1 April 2005.   The Department has been coping with the increasing workload without proportional increase in resources. This remarkable achievement would not have been possible without the exploitation of IT.

Year	Passenger Traffic	Staff Establishment
1972	10 Millions	771
1982	25 Millions	3,622
1995	92 Millions	5,823
2005	191 Millions	6,167

Several of the projects of the ISS-2 have become famous showcases and won the Department some of the world's most prestigious IT awards. The SMARTICS has itself won four major IT awards whereas the Face Recognition System, Entry & Exit Processing System and the e-Channel has altogether won 6 awards.

5.   Conclusion

Being one of the departments with the most frequent interactions with the public, the Department is committed to employing state-of-the-art IT to enhance its business performance and to improve service delivery to its clients. The ISS-2 is an ambitious and innovative plan which provided us the long-term direction and revolutionary solution to continue to strive for service excellence against the backdrop of soaring workloads through better employment and exploitation of information and technology. Coupled with clear business need and effective leadership to guide the implementation of the ISS-2 projects, the Department is able to meet the growing demands for public services of higher quality, to be delivered at a lower cost and in a more responsive manner.

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