Executive summary

These issues are processing inefficiency, lack of communication between the departments, and insufficient planning. Mark Duncan has been given the task to fix these critical issues. Mark plans to use business intelligence (BI) system to help with these critical issues. Ideally a BI system should help analyze data by department, record important information, and help forecast traffic for future periods.

Although a BI system will definitely help them function more efficiently, they must also hire additional IT technicians that are more capable of maintaining the system. IT technicians will be able to repair or prevent any technical down time. These down time are caused by either the program malfunctioning or equipment malfunctioning. IT technicians can also develop a plan in case of catastrophes that will prevent important data from being lost. Although CATSA may not be able to re-train all of their current employees, they may be able to train key employees.

CATSA can create workshops or seminars that will train their management teams that supervise employees or users of the system. Once the management team has undergone these special training, they will be more prepared to help their staff with any problems that may occur with the system. These seminars will also allow the management staff to master the system and become knowledgeable within their departments so that they will be able to answer all questions made by their staff on the operations of the system. CATSA should also research TSA within U. S. airports.

TSA is a similar organization and have implemented their version of the BI system. Their version, PIMS, has allowed TSA to fun more effectively and

efficiently. CATSA should look into PIMS and use this system as a guideline when they decide to create their own BI system. Critical Issues As the vice-president and chief operating officer of the Canadian Air Transport Security Authority, Mark Duncan would like to maximize the utilization of the Business Intelligence (BI) system and add a balanced scorecard to the system to improve the organization's strategic management.

In doing so, he must address several operational and technical challenges may alter the effectiveness of the BI system: * Processing inefficiency – When screening equipment stops working, CATSA must involve different departments within the organization to fix the equipment. * Lack of inter-department communication – CATSA's various departments has poor communication preventing synchronization. * Insufficient planning – At startup, CATSA rushed into its operations without a formal database or business process for planning and managing. Analysis BI System The primary issue Duncan would like to address is the implementation of a BI system.

Changes in data collection will be made in the following areas: * Description of incidents * Records of certification on equipment * Number of approved and invoiced hours broken out by pre-screening hours, enhanced measures, hold-bag screening and non-passenger screening * Financial expenditures * Number of training hours and description of training. These areas, which are monitored by different departments, will now be consolidated, providing better inter-department synchronization. The only area that is unable to be part of the BI system is the CCTV security camera because it would require its own system.

The only cost of implementing an organization-wide BI system is time needed to teach employees how to fully utilize the system. After the departments are consolidated there would be no communication issues because all departments, such as the equipment branch or finance department, would be working from the same system and referring to one location by the same name. Processing inefficiency Because multiple groups within CATSA must continue their assigned tasks after screening equipment stops functioning, repair must be done outside of the regular operating hours.

Without immediate repair, CATSA is unable to process a large volume of customers efficiently. Rather than waiting for after-hours to repair the screening equipment, CATSA has the option of hiring technicians for on site repairs and maintenance. The cost associated with hiring an IT technician is an estimated average annual salary of $48, 652 (Exhibit 2). The IT technician can also help CATSA prevent problems with their equipments by being able to detect problems within the systems and equipment early and fixing these problems. As a result, this could reduce the amount of time needed to repair equipment outside of regular operating hours.

Hiring IT staff will not only help maintain the systems and equipments but they will also be able to provide data backup. The IT staff will be able to implement a plan in the event of a catastrophe to be able to recover important data lost. These data could be from the analytics created by the BI system or the programs that are already set in place by CATSA (www. tucsonwebsitepro. com). As a result, it would be quite beneficial to hire an IT team of approximately 15 technicians for a total average annual cost to

salaries of $729, 780. This is a small price to pay when CATSA spent over $100 million to create the current systems.

This $100 million would be the expected cost just to replace their systems; it would not take into consideration the amount of money lost due to down time from the systems being unusable. Insufficient planning The creation of CATSA was rushed as a result of the incident on September 11, 2001. This caused insufficient planning, resulting in operating without a formal business system and lack of strategic management. They essentially created CATSA within 6 months. During the 6 months they were able to create a HR system and a finance system using $100 million. They trained over 3, 000 staff members within a day approximately.

As a result, their staff may not have been properly trained to deal with passengers and non-passengers efficiently or use the systems created perfectly. This causes Duncan to concern whether or not the staff was meeting and exceeding the Transport Canada regulations for screening. Once the BI system is implemented, the program will be able to determine problematic areas staff members are having difficulty with. CATSA will use the analysis created by BI to create training seminars or workshops for staff members catered to these trouble areas. This would be a better alternative than re-training the staff completely on how to use the systems.

If CATSA were to re-train an employee than the estimated cost would be approximately 38 percent of the annual wage of each employee needed to be re-trained (www. entrepreneur. com). The cost entirely can rapidly consumer most of CATSA's funding as well as countless hours spent working

with the individual employee. Also, most employees at this time may not need to re-learn the entire system since the main functions of the system may have already become routine to them. With training seminars and workshops, the average cost can be approximately $1, 500 per 3-day seminar (www. garyflegal. com).

Large groups can attend a single seminar, thereby increasing the efficiency of the training. The seminars will also focus on specific areas BI has highlighted that have created problems with the overall work processes instead of re-training the entire process from the beginning to the end. Business Intelligence solutions at the TSA Since the primary issue facing CATSA is the implementation of a business intelligence solution that effectively incorporates the balanced scorecard approach, it seems logical to examine other organizations that have faced similar situations when developing an appropriate solution.

CATSA's American counterpart, the Transportation Security Administration (TSA), is by far the most comparable organization to CATSA in almost all aspects. Although the TSA is responsible for security screening at 450 U. S. airports, a lot more than the 89 CATSA is responsible for, it faces very similar problems in terms of security threats, departmental coordination, and performance measurement. In 2004, the TSA was confronted with a similar situation to that of CATSA. The TSA, like CATSA, was established in a very short time frame in response to the September 11, 2001 attacks and was subsequently tasked with the same duties as CATSA.

The need to develop a reliable Business Intelligence solution became obvious, so the TSA sought external help in generating a solution. The TSA selected " MicroStrategy Inc," a dedicated business intelligence software vendor, to develop an appropriate solution. MicroStrategy excels in developing business solutions using a balanced scorecard approach, which is the main reason it was chosen by the TSA for this project. In the TSA's situation, MicroStrategy developed a sophisticated and highly integrated " Performance Information Management System," or PIMS.

Using MicroStrategies Business Intelligence Platform, the PIMS system was used to collect, analyze and report passenger and baggage screening data and provides operational performance metrics, such as wait times at selected airports and screening equipment utilization. PIMS is also used to analyze payroll data, TSA staff utilization, and passenger complaints and compliments. (www. microstrategy. com). This system was first implemented in the TSA in November of 2004. PIMS is the source of the Management Objectives Report (MOR) scorecard, a similar concept to the balanced scorecard approach, tailored to the TSA.

The MOR is used by TSA executives to monitor performance and adherence to goals for every airport in the nation. The PIMS system is used to run approximately one million reports each year and caters to about 12, 000 users. MicroStrategy obviously provides ongoing support as part of this arrangement. By outsourcing the development, implementation and support of their business intelligence software, the TSA was able to take advantage of the superior expertise and facilities available to MicroStrategy.

Furthermore, MicroStrategy is a fairly " universal" software solutions company, able to offer a broad variety of business intelligence solutions, undoubtedly to CATSA as well. Although the total cost to install and implement PIMS at the TSA is unavailable (as MicroStrategy quotes each project independently) and would nonetheless be somewhat unreliable due to the size difference between the TSA and CATSA, the cost savings associated with the system are quite obvious. Additionally, although it is difficult to obtain an accurate estimate of the amount the TSA pays MicroStrategy for support each year, it appears to be roughly $4. million. After implementing the MicroStrategy-based PIMS system in 2004, the TSA reported estimated cost savings (or cost avoidances) of $100 million over the two-year period from 2006 to 2008. The size difference means CATSA cannot expect such significant cost savings, but there is definitely potential to save money. Based on the TSA estimates, PIMS was able to save them approximately $111, 000 per airport, per year.

If we assume Canadian airports would enjoy relatively similar cost avoidances, CATSA would generate cost savings of about $9. million in one year. Furthermore, $4. 5 million additional expenditure versus $50 million cost savings means the PIMS system costs about 9% of the savings it generates each year (not taking into account initial installation) (Exhibit 1). If Canadian airports can expect a similar cost-to-savings ratio, it seems as though the MicroStrategy Business Intelligence Platform™ would be highly advantageous at CATSA. It has, after all, proved very effective in its use at the TSA and, as mentioned before, has lead to ongoing cost savings and performance improvements.

Furthermore, since CATSA has most of the infrastructure in place to adopt such a system, the main costs associated with running this software package would be that of ongoing service and support anyway. Recommendation/Implementation In light of the above analysis as well as the connection drawn between CATSA and the TSA, we recommend that CATSA enter into an agreement with MicroStrategy to provide software and support services for a customized system similar to the PIMS system used by the TSA.

Although the installation and set-up costs for a PIMS system are difficult to estimate but probably rather large, the long term benefits will undoubtedly outweigh the associated costs, as demonstrated by the implementation of PIMS at the TSA. The annual costs of maintaining the system are only 9% of the estimated savings that could be incurred as a result of implementing a system similar to that of PIMS, making this a very attractive solution.

Furthermore, since MicroStrategy offers a broad range of balanced scorecard orientated business solutions and has had experience with a very similar situation, it will most certain be able to provide the software and support required by CATSA. Furthermore, in order to provide the necessary on-site support and physical handling of equipment, we also recommend CATSA consider hiring more technicians who will be specifically trained in the use and handling of this PIMS-like system.

Although the true number of on-site technicians that would be required could only be accurately determined after system implementation, we have estimated, based on the additional support required by the TSA after

implementing PIMS and the relative size difference of the two organizations, that approximately 25 additional PIMS-trained technicians would be required at CATSA. This means two permanent technicians for each of the seven Class 1 airports and about an additional 11 to service the other, smaller airports.

This would cost a total of approximately $1, 216, 300 per year, based on a technicians average annual salary (Exhibit 2) Lastly, we believe a three day seminar would be necessary to train the users of the new BI system prior to implementation. This three day seminar would be aimed at training specific key personnel exclusively. These key people would be mostly members of the upper management team who will undoubtedly make extensive use of the reports and other data generated by the new system.

An ideal way to implement the BI system would be to obviously inform each airport by distributing memos or a similar medium in advance. The memo should contain a time frame for implementation as well as any other functionality differences or other relevant information. When the transition is made, it would be best to operate a parallel running system while making small, incremental shifts towards fully adopting the new system. This will not only allow users to " ease" into the new system more comfortably but also an opportunity to detect and resolve any issues the new system may present.