

Public Sector Case Studies

Master Data Management for a Municipal Government – Integrated data from a variety of applications into a common business intelligence and analytics platform

Goal - Large organizations often have many different technologies and software solutions supporting their operational and management reporting systems. Multiple technology environments make it difficult to get a clear common picture of operations and finances because the different systems often use somewhat different data, cover different time periods and have different levels of summarization. These discrepancies cause confusion for managers, can lead to bad decisions and make inefficient use of expensive labour. This municipal government wanted to provide integrated, accurate data for its business users and citizens.

Solution - the government decided to introduce master data management by implementing a Data Integration Server application. The existing data creation and extraction code frameworks from the government's major business operational applications were used to define a new MDM architecture.

Results - A new set of data management, monitoring and logging systems were implemented and a more current coherent view of the Town's operational performance was made available to business users.

Infectious Disease Surveillance Analytics for a Major Hospital – applied statistical and analytical techniques to a variety of hospital data to improve physicians' clinical insights and overall hospital operations.

Goal - Build predictive analytics to identify high risk cases for infection and to determine the factors that are most likely to cause the spread of infections inside the hospital. The senior management group also wanted to receive regular, near real-time reporting of the analytical results.

Solution - Built a model that analyzes possible causal factors including Disease Attributes, Patient Demographics and History, Diagnostic Events, Treatment Events, and Medical Staff Diagnosis to determine the relationship between the occurrence of the different factors and infection events. Built an automated reporting system to provide senior management with analytical results on a timely basis.

Results - The model found a high degree of correlation between the occurrence of certain factors and infection events. The model will extremely useful going forward to minimize the spread of infections.

School Board Student Success Forecasting – Identified students who are at risk of performing seriously below their potential so that remedial action can be taken.

Goal – The School Board's overall goal was to have every student reach levels of numeracy and literacy in order to achieve meaningful employment in a modern economy. The project's goal was to identify students who appeared to be on dangerous trends before they reach age twelve (age when key numeracy and literacy achievements need to be reached) and age seventeen (when many students drop out).

Solution- a predictive analytics model was built using a wide range of data including School Board & Municipal Information, Basic Services and Programs data, Teaching, Assistants and Administrative Staff data, Individuals Student and Familial data, Program and Provincial Test Performance data and other Performance Evaluation Skills data.

Results - The model found a high correlation between various causal factors and student performance, and the School Board was able to design interventions to help identified students at risk.