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**By**

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ALY6110 - Data Management and Big Data**

**Class Number: 202135**

**Class Name: Spring 2021 CPS Quarter – Second Half**

**CRN: 80524**

**Week 1 Assignment 1**

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**Summary:**

In this, we talk about Big Data in New York City Management. From establishing the 311-citizen hotline to establishing a data analytics office, New York City under Mayor Michael Bloomberg made significant progress in adopting big data to governance and improved the laws. These improvements were made possible by a strong foundation laid down by previous administrations. This case examines how data can be used to make better policy decisions.

The detection rate increased from about 10% to more than 70%. They will learn about the reforms that allowed the FDNY to detect serious building violations earlier before a fatal fire occurred. This study relies on the advancements of big data analytics and its related technologies. Big data analysis is widely used in massive and multi-source data processing because of its superior statistical and analytical capabilities. Commissioner William Bratton of the New York Police Department made history with his crime-fighting strategy, which included Compstat.

The Mayor’s Office of Data Analytics also known as MODA has implemented various analyses in the NY city. Big data is being used by both the private sector and government organizations to unleash new insights. MODA has tackled the issue of sharing the data among various bodies and also allowing the government to work more effectively and efficiently.

**Analysis:**

In this case, the Compstat had a great deal of success in reducing crime by 50% from 1993 to 1999. The crime was a major issue for residents in the late 1990s, and due to New York City's 1975 fiscal crisis, the NYPD had to lay off officers, reducing the department's size by 34%. As a result, crime in New York City has increased. However, as we previously mentioned, the NYPD has long used data analysis to combat crime, but with mixed results.

This contributed to a significant reduction in subway crimes, as well as overall crime in New York City. Before using Compstat, there is a significant gap in the collection and analysis of criminal data. In addition, the launch of the 911 emergency service provided the department with so-called big data, as millions of calls to the police department were made using 911. When law enforcement officers collect such information, it cannot be used to make decisions.

We all know how important the data is especially in these areas. The importance of the data lies in the information contained within. Also, the information is time-sensitive and this is more in line with the operation of big data analysis. MODA assisted them in gathering and analyzing data from various city agencies to predict high fire risk areas. When the best time for data collection and decision-making is not available, the data loses its value.

Sharing the data between various agencies will be a difficult task because each agency had stored the data in diverse formats and used dissimilar labels to name them. However, they each have their own unique data processing methods for urban organizations, making data access impossible for different departments. Further, FDNY kickstarted its Risk-Based Assessment System that uses data from various departments to forecast the risk of fire in various parts of the city.

Forming a big data platform for NYC agencies to store and access centralized data will allow for quicker and healthier city supervision and growth. The main issue was the lack of data in digital computer recorded format, which took a long time to resolve. The data from MODA can be used by the NYPD to conduct crime risk analysis and prevent crimes before they happen. It can be very beneficial to upgrade from the Compstat and adopt a better approach to predicting crime location even before it occurs.

Real-time statistics are critical, and Bratton believed that the Police Department was talented at proactively thwarting crime as well as answering to it. However, doing so would necessitate a thorough understanding of where misconducts were greatest probable to happen, as well as a planned and opportune placement of properties. The NYPD already had a good understanding of crime.

**Answers and Recommendations:**

**Should it [MODA] continue?**

MODA should continue to function at the level of the mayor's workplace, and because it has greater power over various activities in the city. The MODA can work collaboratively with all works and sectors. In this case, the MODA was recognized to break down data silos within every agency in the city and accomplish data sharing among them.

Proper security rules must be employed to overcome information privacy issues. MODA's task force of 6 people may be too insignificant and unproductive to function successfully in the city’s development. In my view, MODA is obligatory because the aids of data sharing among administration activities are understandable. MODA should also implement the knowledge of a unified system to store and process data in the Mayor's office.

It has the potential to assist City agencies in participating resources and making operative use of them. So, data from other agencies can meaningfully diminish their capability.

**Was this the best approach?**

The NYPD was the first to use data analysis to solve city problems, followed by the FDNY. Both departments saw a significant decrease in crime rates and the number of fires in the city for several years. To begin, establish relevant laws as soon as possible to regulate data sharing between organizations. The rules for data usage and sharing should be incorporated into the agencies' daily workflow. In the end, data analytics was used to solve the problems in a way that traditional methods could not. Several companies are now using data analytics to help them run their businesses. To help them make more appropriate use of the data, the authorities must be able to proactively detect and fix difficulties. Obtain the backing of high-ranking officials who recognize the need for data sharing. The agency's personnel should have the ability and training to assist them in using the data system.

**What, ultimately, was the correct balance of centralization versus decentralization in the use of data for governance?**

In an organization, the consultant is focused merely in the hands of 1 person or a group of people, letting for steadiness of feat through vertical top-down message. This centralized strategy is generally used by small enterprises when the owner supervises the company. Specific leaders are apprehended liable for specific consequences in more unified businesses.

It might be required for civic expansion and analytics execution to ameliorate city amenities. As the amount of data generated by centralized data management nurtures, we'll need enough processing power to handle it. Additionally, if the key repository fails, we may not be able to access all of the data because it is all kept in one site.

Keeping the company's uniformity. Getting rid of any uncertainty in terms of power and delegation in a coordinated manner. Cost-cutting and effective leverage will be the ways to achieve data governance in centralized database management systems.

**Conclusion:**

Many businesses have benefited from data analytics and big data to improve their working and operational processes. The approach to policing is changing as a result of big data. Predictive systems can predict crimes that haven't happened yet. When and where the police patrol is affected by the location of crime statistics. In the never-ending fight against crime, the use of data and statistics has shown to be crucial. These issues are currently being addressed by forming dedicated data teams or squads to improve data accessibility and analysis. However, it is also vital to emphasize that the system's ability to manipulate data is a major concern. I'm hoping that this will enable us talk about centralization and decentralization more in depth in the future. In mixed organizations, how do you develop trust? How to develop virtualized services that are controlled from a central location yet act locally. How can the organizations performance goal and IT's contribution be demonstrated? How to account for the rise of cloud-based services are necessary to overcome the challenges.

**References:**

[1] Michael Bloomberg. (February 14, 2013). Mayor Bloomberg Delivers 2013 State Of The City Address. Retrieved from http://www1.nyc.gov/office-of-the-mayor/news/063-13/mayor-bloomberg-delivers-2013-state-thecityaddress

[2] Gilsinan, K., & Stepan, A. (2014). From Compstat to Gov 2.0: Big Data in New York City Management. From Compstat to Gov 2.0 Big Data in New York City Management, 1–20. Retrieved from http://ccnmtl.columbia.edu/projects/caseconsortium/casestudies/127/casestudy/www/layout/case \_id\_127.html