**Case Study Summary- Big Data in IRS**

**Background Overview:**

Starting from 2008, the Internal Revenue Service (IRS) suffered a spike of loss from identity theft, which could have potentially given out 21 billion dollars in fraudulent refunds just in the succeeding five years. So, the IRS decided to utilize big data analysis to help identify potential frauds. An extra of $32 million was estimated to be spent on investigating 1.5 million instances of potential frauds in 2011 alone.

However, at the same year, the U.S. Government Accountability Office (GAO) decided to cut their budget by $350 million, making the IRS handicapped in terms of resources, forcing them to find a more efficacious way to deal with such headaches. “Bigger budget isn’t the only answer,” said congressman Gerry Connolly, “You can be smart all you want, that’s a real cut”. (Serbu)

So, Dean Silverman, the IRS’ senior adviser to commissioner for compliance analytics, took his office beyond predictive analytics to a three-fold atypical structure involving analytics, strategies, and actual implementations.

**Tools and Results:**

There are three straight-forward goals for this initiative: (Miller)

* Stop fraud and improper payments – identify tax-refund frauds;
* Reduce the tax gap between the number of people who are paying taxes and the number of people who should be paying taxes – ensure taxpayers benefits;
* Ensure core compliance with tax rules and laws – provide more accurate Return on Investment (ROI) and better budget allocation.

“I think you can find all manner of skills,” said Silverman, “The question is, what is the right mix”? (Miller) He believed that only a team with great modelers, sophisticated analysts, as well as farseeing process managers could have the kind of capability to solve these problems by themselves. In this context, teams that had the ability to collect data, build models along with computer matching to identify potential frauds, and initiate prosecutions was desired. The office hired SAS as business partner to provide state-of-the-art analytic tools for under $6.25 million, and budget up in training of employees to be problem solvers instead of just analysts. In return, the IRS reported that it saved or recovered more than $2 billion over the years from 2011 to 2014.

**Summary and Personal Opinions:**

In my opinion, this IRS case is a perfect example of showing how managerial strategies can significantly boost data analytics. The office was not spending any extra dime on gathering new data or digging deeper into cases. Instead, Silverman put together teams that were highly collaborated throughout the process from finding to prosecuting frauds. Such a technique was proven to be highly cost-effective by increasing solved cases by about 20% under budget constraints. In the future, besides upgrading data analytic tools, I think the IRS should experiment this three-fold managerial structure at other governmental institutes to help save taxpayers money. However, this success was built on the premise of IRS having six years of experience in big data since 2008, which I believed that most government departments still do not have at today.

**Reference:**

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