Big Data and the End of the Myth that IT Reduces Costs

Posted At : October 29, 2012 9:43 AM | Posted By : Alex Rossino
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Big data solutions have compelling value to offer to federal agencies. They can identify waste and fraud. They can stop terrorist attacks. They may even be able to find a cure for terrible diseases. However, big data solutions require still further investment for agencies to use them, laying bare the myth that IT reduces costs.

One of the compelling value propositions of big data is that the insight gained from the advanced analysis of data can lead to all kinds of benefits. Federal agencies can identify waste and fraud. They can ferret out cyber adversaries and stop terrorist attacks. They may even be able to find a cure for terrible diseases. These are benefits that cannot be assigned a price tag and therein lays the difficulty of determining big data ROI. As agency budgets decline, responsible IT officials are compelled to develop business cases justifying the cost of implementing big data solutions. Just how are they supposed to do this when the potential benefit to be gained is something as squishy as "this investment may contribute to a cure for cancer?" Securing funding for projects based on a vague ROI in a fiscally constrained environment that is only growing worse likely has a snowball's chance in "you know where" of being approved. Juxtaposed to this is the fact that IT is increasingly being targeted by Congress as an expense to be controlled, equivalent to spending on an agency's auto fleet or staff. This raises an important question about IT that agency decision-makers and Congress are being forced to grapple with, namely, to what extent is IT a cost saving investment versus a cost generating investment?

This question is particularly appropriate to ask when it comes to big data. The TechAmerica Foundation's **recent report on big data** did everyone a big service by describing big data as a phenomenon and not a "market." This description made it clear that big data is a phenomenon generated by the continuous evolution of IT. Put another way, IT infrastructures and environments, long touted as being cost saving investments, are actually the driving force creating the phenomenon of big data. Organizations in the public and private sectors, relentlessly, dare I say blindly, pursue the golden fleece of increased efficiency driven by IT. They implement every new generation of technology that comes around - mobile devices, sensors, UAVs, etc. - beguiled by the promise that these will enable capabilities, solve problems, and … reduce costs. What we see instead is that the result of all those IT investments is the proliferation of data so massive that it cannot be adequately analyzed for insight by the very investments that generated it.

For example, big data prompted the Department of Energy to invest in the Energy Sciences Network so that DOE scientists can push data at 100GB per second. Demand in the scientific community for the use of this network is very high and will only grow. What will this demand drive? Why, the demand for further investment, of course. Here is another example. The Department of Defense recognizes that it has a big data challenge, so now it wants to build a network capable of speeds greater than 100GB per second. How long will it be before even this network is too slow and overloaded, requiring even more money for expansion? Then there are ever greater data storage requirements. The cost of storage is falling, but it is still not zero, and because data is proliferating storage costs will always grow.

From the beginning cloud computing, now all the rage, was touted as a way for agencies to reduce the cost os spending on IT infrastructure. Implicit in that claim is the veiled understanding that IT costs always rise. Pushing agencies to the cloud was simply Vivek Kundra's attempt to let open competition put a lid on constantly rising costs. Migrating to the cloud eventually will reduce costs in the short term, but the big data challenge is already raising a yellow caution flag in that race. Data is 100% guaranteed to proliferate, making today's big data tomorrow's bigger data. This is turn will necessitate investments in hardware, software, and services to store, process, and analyze that data. All of this is a boon for industry just, please, don't tell Congress.