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Public sector, disrupted
How disruptive innovation
can help government achieve
more for less

Executive summary

Where the public sector *is* innovating — unless the innovation is of the disruptive variety — costs typically will rise faster than the rate of inflation.

In the wake of the deep austerity facing most governments around the western world, we hear a steady refrain from politicians and pundits to "do more with less." Unfortunately, budget cutting, typically an exercise in using the blunt instrument of across-the-board cuts, is more about "doing more of the same, but with less money." The inevitable result however tends not to be more for less but less for less.

This paper proposes an alternative path: a way to use innovation to make public programs radically cheaper without slashing services; a way to break the seemingly unavoidable trade-off between paying more or getting less.

The key to doing this is through disruptive innovation. Disruptive innovations start out less good but cheaper than the market leaders, but then break the trade-off between price and performance by getting better, and typically even cheaper, over time. Disruptive innovation puts the lie to the traditional notion that you always have to pay more to get more.

In sectors of the economy where disruptive innovation is commonplace, consumers are accustomed to steady price reductions and performance improvements over time — think of computing, electronics, steel manufacturing, and telecommunications.

In sectors with little or no disruptive innovation, by contrast, costs and prices generally rise over time. Government, with double-digit cost increases from health care to education to defense, is particularly conspicuous in this respect.

By breaking seemingly immutable trade-offs, disruptive innovation offers a potentially powerful tool for radically reducing costs in the public sector while maintaining or improving services.

A new way to think about the public sector

The lack of disruptive innovation in government is *not* inevitable. Government actually has certain built-in *advantages* it can use to overcome distinct structural obstacles, and encourage and shape disruptive innovation.

Governments can shape the markets in which they operate

The public sector's enormous buying power has the potential to shape and create markets in ways that deliberately foster disruptive innovation. The public sector plays a major role in many markets today, whether intentionally or not. From K-12 education to defense, from transportation infrastructure, to health care, government is either a dominant or *the* dominant buyer in the market. Instead of simply supporting status quo approaches, public agencies can use their buying power to steer markets where they are a major buyer or deliverer toward more disruptive approaches.

Each government market involves trade-offs that drive up costs or reduce performance

A trade-off defines the limits of what is possible at any given time, forcing you to choose between, for instance, a product that is simple to use and one that might have far superior performance possibilities but be more complicated.

The most common trade-off in the public sector is between price and performance. It is assumed that better intelligence capabilities require governments to spend large sums on expensive technologies such as satellites. Safer streets require more prisons. Reduced traffic congestion requires more roads, bridges and tunnels. Better performance and capabilities inevitably seem to involve paying more.

Disruptive innovation eliminates critical trade-offs

The power of disruptive innovation lies in its capacity to shatter trade-offs — between price and performance, speed and quality, convenience and satisfaction and so on. Consider Netflix. For years, the trade-off for the home movie watcher was between convenience (watching something that happened to be on cable that night) and satisfaction (watching exactly the movie you wanted that night but having to go to the video store to get it). Netflix exploded this trade-off. Its video streaming service allows households to order up any of tens of thousands of movies and television shows, and watch them in the comfort of our home within seconds.

Opportunities for disruptive innovation

Disruptive innovation can similarly help govern-ment to break trade-offs and reduce costs. Opportunities to do so include:

Criminal justice: Electronic monitoring has the potential to break the trade-off between more prisons or more crime. By removing low-level offenders from prisons and putting them under house arrest, electronic monitoring enables governments to dramatically reduce their spending on incarceration ($5 to $25 per day compared to $78.95 for prison).
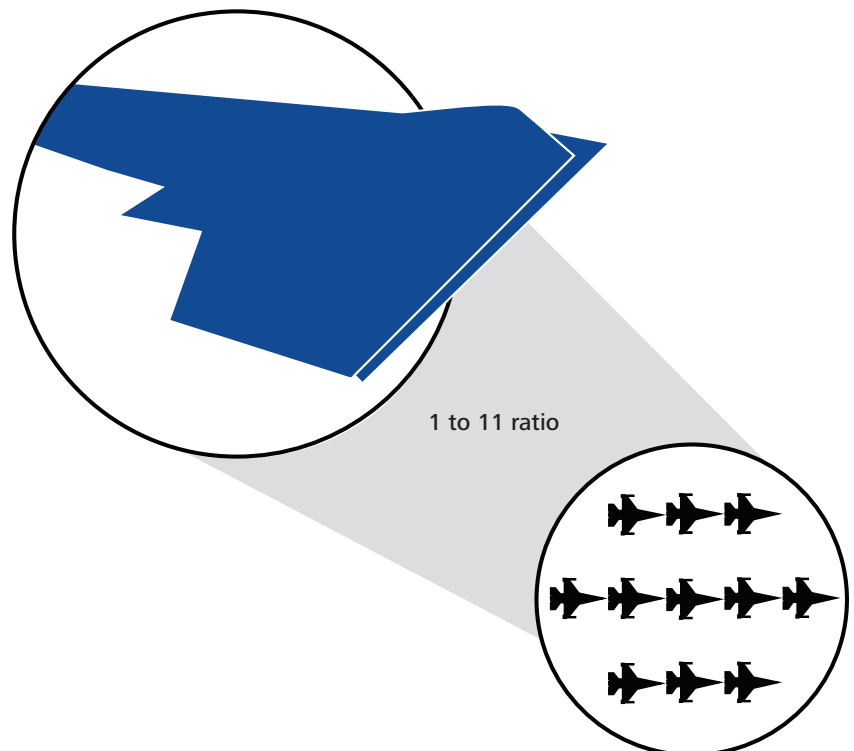
Defense: Unmanned Aerial Vehicles (UAVs) cost just a fraction of the tab for manned aircrafts and satellites, yet many provide several key perfor-mance capabilities that exceed even those of manned aircraft. These include persistence (the ability to provide persistent coverage over an area for an extended period of time) and flight longevity (a single flight can last up to two weeks). And of course, they do not require a pilot to go into harm's way.

Figure 1: Number of offenders that can be tracked for the cost of one prison bed
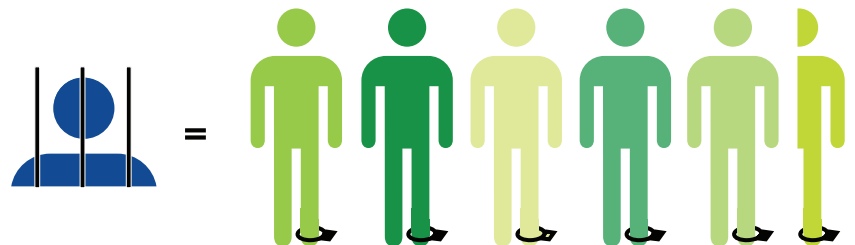
Approximately 5 ½ offenders can be electronically monitored for the cost of incarcerating one offender behind bars

Figure 2: Number of UAVs that can be purchased for one manned aircraft

1 to 11 ratio

> The average cost reduction from blended learning in higher education has been 39 percent, with some course costs reduced by as much as *75 percent.*[2]

Higher education. From 1982 through 2007, tuition and fees at U.S. public and private colleges rose by an average of 439 percent after allowing for inflation.[3] The prevailing wisdom in higher education is that it's not possible to reduce costs and improve quality. But is this assumption actually true? *Online learning* offers the potential to break the trade-off between price and quality and transform higher education's basic business model. It allows many of the services colleges now provide to be unbundled, allowing students to pay only for what they need.

Intelligence. The collection and analysis of intelligence has become a particularly complex and resource-intensive task. Better intelligence capabilities historically required more people, more satellites, and lots of very expensive custom technology. Two developments, large volumes of open source information matched with advanced analytics, potentially enable intelligence agencies to break this trade-off and provide critical intelligence capabilities at a lower price. Rapidly maturing analytics technologies — modern data mining, pattern matching, data visualization, and predictive modeling tools — can help make sense of the mountains of free, open source data available today, and apply them to make more informed decisions.

K-12 education. *Online learning*, or a blended learning environment of digital learning and traditional instruction, may be capable of breaking the trade-off between standardized teaching and the more personalized instruction a student might receive from a tutor or at an elite prep school. How? By personalizing the learning experience according to individual student learning styles and pace, and doing so without increasing the number of teachers. Today's online learning courses are moving rapidly from test preparation and correspondence classes into mainstream education. More than 4 million students at the K-12 level took an online course in 2011, up significantly from just 1 million three years earlier.[1]

Fostering disruptive innovation

Introducing disruptive innovation in the public sector has three principal components:

1. Focus
Policymakers can identify disruptive opportunities by focusing on three issues: 1) What is the job to be done? 2) What are the current trade-offs? 3) How can these trade-offs be broken?

2. Shape
The best place to start a disruptive innovation tends to be in a market segment either overserved or not served at all by the current, dominant model of delivery. Success also typically requires the disruptor to have autonomy from the parent organization, as well as from the incumbents who dominate the market.

3. Grow
Government has an array of tools and channels that can be used to foster and nurture the growth of disruptive technologies. These include legislation, budget maneuvers and other special funding tools.

To get more for less requires doing things differently. From homeland security to education, from health care to defense, what is needed are innovations that break traditional trade-offs, particularly that between price and performance. Disruption innovation offers a proven path to accomplish this goal and in the process transform public services.

About the authors

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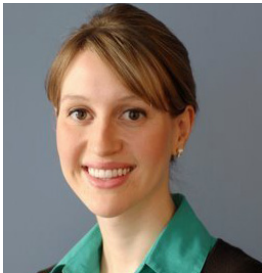
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Endnotes

1. Ambient Insight, "2011 learning and performance technology research taxonomy," January 2011. Vander Ark, Getting Smart, chapter 6 and Anthony G. Picciano, Ph.D and Geoff Seaman, Ph.D, "K-12 Online Learning: A 2008 Follow-up of the Survey of US District School Administrators," Sloan Consortium et al, 2009. < http://sloanconsor-tium.org/publications/survey/k-12online2008>.
2. Carol Twigg, "Improving Learning and Reducing Costs: New Models for Online Learning," National Center for Academic Transformation, http://www.thencat.org/Articles/NewModels.html
3. Ibid, p.50.