

THE RISE OF EMPLOYEE SELF-SERVICE DATA, AND I.T.'S NEW ROLE

The era of Big Data has arrived. Never before has data been more important in business. Companies like Amazon, Apple, Facebook, Netflix, Google, and others are doing remarkable things with troves of consumer, user, and employee information. What's more, there's no end in sight.

These companies remain the exception that proves the rule. For every company "doing" Big Data right, however, many are struggling with today's data deluge. While the reasons for this are multifold, it's hard to overstate the importance of a fundamentally broken process within many organizations: IT needs to formally sanction and grant access to information. At a minimum, the resulting

back-and-forth stymies many curious employees and leads to missed revenue and profit opportunities.

Fortunately, there's a three-part solution to this problem. First, more and more organizations are deciding to empower their employees via self-service. Along with the rise of cloud computing, this fundamentally changes the role of IT, often for the better. Second, organizations are building, buying, and deploying vastly more powerful data-visualization applications. These tools allow even non-technical users to find the signal in the noise. Finally, organizations are holding employees accountable for making data-based decisions.

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INTRODUCTION

The era of Big Data has arrived and, like many other technologies and movements, adoption is anything but consistent across the board. Some high-profile organizations are moving quickly. Amazon, Apple, Facebook, and Google certainly come to mind –and their results have been impressive. Still, these are the exceptions that prove the rule. Most organizations are taking their time.

We've seen inequality of technology diffusion time and time again. In his excellent 1991 book *Crossing the Chasm*, Geoffrey A. Moore explains the notions of early adopters and laggards. Long story short: Most people and enterprises wait until their colleagues have gone down a road before they decide to do the same. Let's take a brief look at our history. We'll see how the prevailing mind-set in many organizations with respect to the diffusion of data hasn't changed from 15 years ago.

DATA MANAGEMENT 1.0: IT AT THE CENTER

Throughout the 1980s up until fairly recently, the role of IT in most large and mid-sized organizations was fairly well established. At a high level, IT served as the gatekeeper of enterprise data. This was a central tenet of what I call *Enterprise 1.0*. The development and deployment of new systems typically involved IT from the get-go. Enterprise resource planning (ERP), customer relationship management (CRM), and business intelligence (BI) solutions often took years to deploy with decidedly mixed results, subjects that I covered extensively in *Why New Systems Fail*. The prevalence of on-premise systems essentially guaranteed that IT would have a strong say in which employees used which applications, how, and when. The term bottleneck was not uncommon.

For better or worse, IT almost always worked with line-of-business (LOB) employees in a number of capacities beyond conducting basic troubleshooting, setting up hardware, removing viruses, and installing software. IT typically built the following tools that were beyond the expertise of the everyday LOB employee:

- ▶ Data warehouses
- ▶ Custom reports
- ▶ Dashboards
- ▶ Extract, transform, and load (ETL) tools. These essentially take data from one source, convert it, and load it into another source.

Across myriad organizations, if an employee in marketing, finance, or HR wanted access to enterprise data, there was simply no way around the IT department.

Needless to say, the IT-business partnership was often strained. IT often didn't truly comprehend the needs of business users. For their part, LOB rank and file often didn't appreciate the way that data was stored. [Rare is the payroll or marketing person who understands the concept of a database schema.] What's more, many of the tools required to analyze data required a great degree of technical sophistication and the ability to write at least rudimentary code. Up until fairly recently, relatively few analysis-oriented tools could be considered WISYWIG.¹

A NEW, FASTER BUSINESS ENVIRONMENT

It's hard to believe that the technologies in shows like *Mad Men* were once considered revolutionary. Typewriters and mainframe computers were once best-of-breed enterprise tools.

Today, even the early 1990s seem dated. We live in an era that requires speed and organizational agility, a trend that shows no signs of abating. In his book *The Singularity Is Near*, Renowned technologist and inventor Ray Kurzweil describes how we are living in an era of accelerating technological change.² Major advents like the television and the telephone took decades to achieve critical mass. People have embraced e-mail, cellphones, the Internet, and social networks in much less time.

Against this backdrop, who has time for IT to approve every request for data? Even hours spent waiting for access can mean lost revenue, profit, and market share. Never before has organizational agility been so critical. The alternative to self-service: Constantly involving IT in all data-related matters, a process that often requires explaining the business context of the request. For obvious reasons, this is hardly idea.

SHIFTS IN EMPLOYEE SKILLS AND TOOLS

The case for employee self-service (ESS) would be impossible make were it not for two recent developments: more tech-savvy employees and vastly improved enterprise data-analysis tools. Let's take a brief look at each.

A More Tech-Savvy Employee

In 1998, I worked at a *Fortune 500* company that would very much be considered a laggard. One VP in HR used his laptop as a paperweight. He would print out e-mails, scribble his

¹ Short of what you see is what you get.

² In his 1999 book *The Age of Spiritual Machines*, Kurzweil proposed a similar law, one of Accelerating Returns. Put simply, the rate of change in a wide variety of evolutionary systems (including but not limited to the growth of technologies) tends to increase exponentially

responses, and give his secretary the notes so she could type in the response.

Technophobic employees like that doubtless exist in many organizations, but they are increasingly the exception that proves the rule. No, not everyone has the coding chops of Mark Zuckerberg, but the vast majority of GenXers and Millennials know their way around a computer.

More Robust and User-Friendly Data Visualization and Analysis Tools

Application-wise, it's a far cry from 1998. IT often needed to be involved in the extraction of information from databases and data warehouses because the tools required far more technical sophistication than most LOB employees possessed.

Today, data visualization and analysis tools have improved by orders of magnitude on several fronts. For one, they are significantly cheaper. Everyday employees can do far more sans the IT department. The degree of choice around new tools is unprecedented. No longer are companies effectively beholden to only a few expensive options. The usual suspects here include cloud computing, SaaS, and open-source software. The latter two movements mean that tools can be deployed almost immediately. [The days of the year-long IT project are coming to an end.] Toss in open application programming interfaces (APIs), and collectively regular employees can access, interpret, and act upon vast troves of information in seconds, not months.

THE NEW ROLE FOR IT

The arrival of Enterprise 2.0 technologies like cloud computing, mobility, and the like mean that IT should play a different role in most organization. Let's explore some reasons for—and implications of—this sea change.

IT Involvement Never Guaranteed “the Right” Answer or Decision Anyway

Although IT departments and individuals traditionally granted access to enterprise data, IT was never omniscient. One should never conflate the two. Looking at raw data often fails to provide the business context, something that LOB employees inherently understand due to the nature of their jobs.

A New Role for IT Does Not Mean No Role for IT

Contrary to many reports, IT is not going the way of the dodo anytime soon. To be sure, the department still has a critical role to play but make no mistake: that role has change and will continue to do so. This new role entails enabling ESS within the organization while concurrently preserving the security and availability of essential enterprise data and systems.

The Elephant in the Room: Security

In 2006, cloud computing was a relatively new phenomenon. Today, the cloud has arrived in full force. Exhibit A: Companies like Amazon, Google, Rackspace, and Microsoft are growing multibillion-dollar businesses at remarkable clips. Forward-looking organizations are turning to increasingly popular, powerful, and secure cloud-based solutions. Consider the recent research of IDC. The firm predicts that:

Public IT cloud services will reach \$47.4B in 2013 and is expected to be more than \$107B in 2017. Over the 2013–2017 forecast period, public IT cloud services will have a compound annual growth rate (CAGR) of 23.5%, five times that of the IT industry as a whole. The growing focus on cloud services as a business innovation platform will help to drive spending on public IT cloud services to new levels throughout the forecast period. By 2017, IDC expects public IT cloud services will drive 17% of IT product spending and nearly half of all growth across five technology categories: applications, system infrastructure software, platform as a service (PaaS), servers, and basic storage. Software as a service (SaaS) will remain the largest public IT cloud services category throughout the forecast, capturing 59.7% of revenues in 2017. The fastest growing categories will be PaaS and Infrastructure as a service (IaaS), with CAGRs of 29.7% and 27.2%, respectively. Source: IDC Forecasts Worldwide Public IT Cloud Services Spending to Reach Nearly \$108 Billion by 2017 as Focus Shifts from Savings to Innovation.³

These numbers can be illustrated visually as follows:

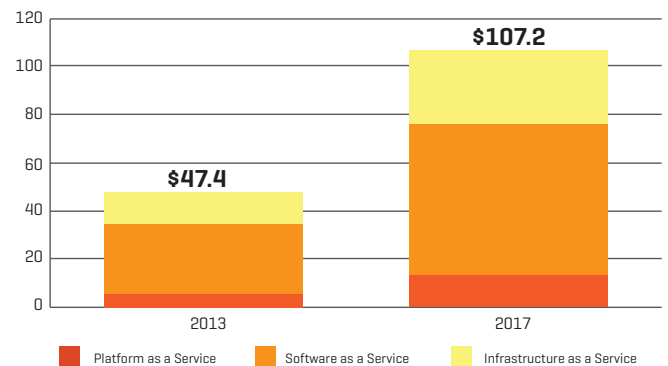


Figure 1.1

Worldwide Public IT Cloud Services Spending by Segment (in \$ billion)
Source: Forbes, IDC

³ For more on this, see <http://tinyurl.com/nm7h6qd>

To be sure, one should not confuse increasing cloud adoption with its universal adoption. Many CXOs have demurred on cloud computing because of questions related to security, privacy, and good old-fashioned aversion to change. [In many organizations, the “ain’t broke, don’t fix it” mentality is alive and well.] Let’s focus on security for a moment.

While a complete analysis of the security merits of cloud computing is well beyond the scope of this paper, one can argue that cloud-based applications are actually *more secure* than on-premise. On Forbes, author and independent researcher Joe McKendrick cites a study of 70,000 security breaches for a 12-month period across 1,600 companies released by Alert Logic, a security vendor. McKendrick notes that cloud-based applications are *less likely* to be attacked than on-premises environments.⁴

Security is often a showstopper for cloud computing proposals, but at least one survey suggests that applications and data may be somewhat more secure out in the cloud than within on-premises systems.

At a minimum, IT departments ought be investigating how cloud computing can help their organizations. Considerations include:

- ▶ What type of cloud is best? Examples include private, public, and semi-private.
- ▶ What types of data should be enabled via the cloud?
- ▶ What regulations do we need to consider? Examples include: privacy, healthcare, consumer protection, etc.

DATA-EMPOWERED EMPLOYEES

The first step in unleashing the power of Big Data is to recognize that the world has changed significantly from the mid-1990s. As discussed in this white paper, the days of IT as gatekeeper of information are coming to an end. In order to successfully compete today, employees not only need to be able to access information immediately; they need to be able to act on it.

Obvious pronouncements without concrete action are unlikely to result in meaningful change. It’s imperative to recognize that a new mind-set is required in many organizations, one predicated on data discovery and employee empowerment. As management guru Peter Drucker once famously said, “Culture eats strategy for breakfast.” The most senior levels of the organization need to encourage and reward data-oriented decision making and exploration. Merely paying lip service to

the importance of data discovery and employee self-service will not yield meaningful results.

Of course, a new mind-set is just one requirement today. Without the attendant tools, employees are unlikely to move the needle. New data-visualization applications can yield remarkable insights into customer behavior, but only if employees actually use them. Far too often, organizations deploy new tools. After the requisite training, many people simply revert to using what they know: Microsoft Excel or Access. These applications are still remarkably useful, but they simply cannot effectively handle the panoply of new data sources streaming at us faster than ever [read: *Big Data*]. Amazon, Apple, Facebook, Netflix, Google, and other successful companies create robust applications for their employees—and then expect those employees to use them.

DISPELLING THE MYTH OF BIG

Many people think of the sheer scale of Big Data behemoths and are understandably intimidated. After all, the average organization cannot approximate Google or Amazon in terms of employees, revenue, amount of data, and the like.

Fortunately, this is not 1998. Even very small companies can access best-of-breed technologies and applications, a point that I make in *The New Small*. Cloud computing and Software as a Service [SaaS] collectively mean that organizations need not drop millions of dollars on an enterprise-wide application only to deploy it two years later. Put differently, why buy when you can rent? Brass tacks: It’s never been easier for even a small department to get up and running very quickly and at fraction of the costs of traditional IT projects. From an accounting perspective, relatively small monthly operational expenses are far more palatable than massive annual capital expenses.⁵

Widespread democratization is not limited to sophisticated technology. The same can be said for access to talented data scientists. Open-innovation companies like Kaggle, Innocentive, and others have collectively allowed even small companies to affordable access some of the smartest cookies in the world.

CONSIDERATIONS AND THOUGHTS ON GETTING STARTED

Is your organization ready to take the Big-Data plunge and truly empower its employees with data? It’s not a simple question. To determine how to proceed, ask yourself the following:

- ▶ Does management reward data-based thinking?
- ▶ Is your organization stuck in the mid-1990s?

⁴ For more on this, see <http://tinyurl.com/8jm94v8>.

⁵ For more on this, see http://www.diffen.com/difference/Capex_vs_Opex.

- ▶ Are the applications not very user-friendly?
- ▶ Which employees are willing to learn new ways of doing things?
- ▶ Which employees are most likely to resist the move to employee self-service?
- ▶ Which data sources should continue to be locked down? Why?
- ▶ What are the security considerations of democratizing access to data? Are there any regularly issues such as HIPAA⁶ that warrant special consideration?

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SUMMARY AND CONCLUSION

This paper has described the veritable sea change that has taken place with respect the IT landscape over the past fifteen years. No longer should IT strictly control access to internal and external datasets. The costs of doing so are simply too large. Rather, progressive organizations are granting everyday [read: non-technical] employees access to enterprise and external data *without extensive IT involvement*.

⁶ The Health Insurance Portability and Accountability Act is a US law designed to provide privacy standards to protect patients' medical records and other health information provided to health plans, doctors, hospitals, and other health care providers.



ABOUT THE AUTHOR

Phil Simon is a frequent keynote speaker and recognized technology authority. He is the award-winning author of six management books, including *The Visual Organization: Data Visualization, Big Data, and the Quest for Better Decisions*. He consults organizations on matters related to strategy, data, and technology. His contributions have been featured on The Harvard Business Review, CNN, Wired, NBC, CNBC, Inc. Magazine, BusinessWeek, The Huffington Post, Fast Company, *The New York Times*, ReadWriteWeb, and many other sites.

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Rev. 08/14 | 140731-0058