In 2013, I wrote a white paper about Big Data for Plan B in Chicago.

Give it a read:

THE BIG DEAL ABOUT BIG DATA

In the brave new world of Big Data, success is all about how you read the numbers — and act on your findings.

According to Google CEO Eric Schmidt, the world creates 5 exabytes of data every two days — about the same amount of data created since the dawn of civilization.[1] From work to shopping to recreation—individuals and organizations are cranking out raw digital data at ever-increasing rates. And every keystroke, mouse click, purchase, and engagement with a smartphone, tablet or computer is being collected and cataloged—not necessarily by Big Brother, but by Big Business. This ever-growing stream of facts and figures is called "Big Data." Analyzed and utilized thoughtfully, it can help organizations run more efficiently, serve customers and constituents better, and increase profits.

Despite the availability of all this data, however, companies remain challenged with how to make the best use of it. This paper seeks to simplify the vastness of Big Data's applications to help you make more sense of its potential value for your organization. It will explain what Big Data is and how big it can get; explore its possibilities; examine how some organizations are putting it to work; recommend ways it could serve your needs; and mention some issues to keep in mind as you incorporate its use into your business practices.

[FOOTNOTE]:

1.http://techcrunch.com/2010/08/04/schmidt-data/ .

MAKING SENSE OF THE MORASS

So, what exactly is Big Data?

According to Gartner, an industry-leading tech research company, Big Data is "high-volume, high-velocity and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision-making."[2] It's a massive pool of information that, for business purposes, can usually be classified into two categories, **structured data** and **unstructured data**.

Structured Data takes the form of easily analyzable data, and is typically attained from user and consumer information, sales history, and CRM databases.

Unstructured Data is the magnitude of data without a pre-structured format that an organization can collect and analyze. This can include brand mentions on social media, blogs and forums, which can be mined for valuable insights in marketing and business decision-making.

All of this information is actionable only to those with the understanding and ability to properly harness its power. Only by analyzing Big Data with a specific business goal in mind will an organization discover the meaningful insights that inform effective decision-making.

As today's companies race to become tomorrow's leaders, the ability to analyze and leverage Big Data in all its forms won't be a nice-to-have. It will be a need-to-have.

[FOOTNOTE]:

*2.*http://gartner.com/it-glossary/big-data/ .

ANALYZING BIG DATA IS NO SMALL FEAT

Answers don't simply leap out of all those ones and zeros. It takes computing power and brainpower to make Big Data work for you.

In a survey of executives from around the world and across different sectors, The Economist Intelligence Unit found that those companies significantly outperforming their peers are more likely to collect—or plan to collect—more data in forms including social media mentions, human resources data, and even data from smart sensors in machinery, vehicles, and products in the field.

Ash Mahmud, Head of CRM at Groupon says, "A business running without accurate data is running blind."[3]

To expand on his point, a company with all the data in the world won't be able to do anything with it without the proper business strategies, trained staff and technological infrastructure to make sense of it all.

On the technical side, an organization's computer infrastructure must be powerful enough—and IT staff skillful enough—to handle the labor of analyzing huge quantities of structured and unstructured data.

On the leadership side, managers must have the right skills in place to analyze data, and formulate decisions based on their findings. To satisfy the need for data-savvy

leaders, more companies have begun to recruit Chief Data Officers — often reaching into the halls of academia to find people with the right skill sets.

 Without good strategy, Big Data's just a bunch of numbers

Organizations that are able to define what they want their data to accomplish before they start collecting it are the ones who will be rewarded for their efforts. A good strategy helps researchers determine what data will be of use to them, and what data is simply "noise."

To sum up, here's a good "Nature Channel-style" analogy for building a successful relationship with Big Data. If you picture your organization as a bear, and Big Data as a raging river, then your job as a bear is to become adept at recognizing and catching just the salmon – that is, the pieces of data that are actually useful to you. Leave all the swirling water, driftwood, nasty-tasting fish and river debris alone. Just eat the salmon.

It's the job of strategy to define what good data is — to define the salmon — and then determine the most efficient and effective means of capturing it for consumption.

THE BIG SHORTAGE: GOOD TALENT IS GETTING HARDER TO FIND

With more and more companies seeking to harness the tremendous promise of Big Data, the demand for people with the skills to work with it is rising rapidly, and will soon outweigh the supply.

By 2018, it is estimated that the U.S. could face a shortage of 140,000 to 190,000 professionals with the deep analytical training required to manage the growing influx of data. That means the U.S. will need to increase its supply of talent as much as 50 to 60 percent to meet the demand.[3]

One-third of a total of 750 senior executives and business leaders interviewed by the Economist Intelligence Unit admitted to lacking the proper skill set within their organization to effectively manage data. One-quarter of the respondents went even further by revealing that vast quantities of their own companies' proprietary data—go untapped.[4]

Universities are gearing up to meet the upcoming demand for data-savvy talent. For example, The Kellogg School of Management's recently launched CMO program offers marketing officers opportunities to gain a better understanding of Big Data analytics and social media monitoring.[5]

A Big Data Bootcamp held in New York in the spring 2013 offered professionals an opportunity to get a better understanding of the Big Data phenomenon and how it applies to their industries.[6]

As more professionals in all disciplines realize their career survival may rely on at least a basic understanding of Big Data, more educational organizations and data entrepreneurs will offer educational programs to get the workforce up to speed — especially those in marketing and strategy positions.

[FOOTNOTES]

3. http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation

4. The Economist Intelligence Unit – Big Data Lessons from the Leaders. http://www.sas.com/reg/gen/corp/1774120 .

5. Advertising Age, "Preparing the Next Generation of Chief Marketers. Kellogg School of Management Launches Program To Help Current, Prospective CMOs Acquire New Skills." May, 22, 2013. http://adage.com/print/241621
6. http://bigdatabootcamp.net
   [HEADLINE]:

GETTING THE MOST FROM THE MASS

 How some industry leaders are squeezing big gains from Big Data.

Though it's still a developing discipline, the use of Big Data is already yielding results for organizations in a variety of fields.

By effectively collecting and analyzing data in ways that yield accurate measurements of operations—or customer wants, needs and opinions—companies are able to adjust managerial, marketing and sales practices in ways that yield greater income and efficiencies.

From a business-to-consumer standpoint, the benefits of Big Data can be staggering. And, while there isn't a standardized approach, careful planning and deeply defined strategy are paramount to getting the most out of Big Data.

Through emphasizing specific pain points, purchase patterns, and even place check-ins, see how these specific businesses are using Big Data to their advantage.

Gaming the system: casinos win and win, thanks to Big Data

Casinos are among the organizations at the forefront of exploiting the full potential of Big Data. By connecting their loyalty card programs to the power of Big Data, they can influence the experiences of their customers in real time, out on the casino floor, to keep them staying longer and gambling more.

Consider this scenario: a woman in her 60s is playing a slot machine with her loyalty card. She's not doing so well. By examining her current play and past behavior, the casino's analytical software alerts staff in the casino's "mission control" that, unless something disrupts her losing streak, the woman will probably stop gambling soon. Mission Control radios up to a floor attendant, advising her to pay the lady a visit. The floor attendant strolls up to the lady, smiles, and asks how her luck is going. Not so well, the lady ruefully reports.

The floor attendant decides to cheer her up, handing her a ticket for a free trip to the buffet. Her spirits lifted, the woman takes a break from the slot machine, has a snack at the buffet — and then goes back and gambles for two more hours.

The house wins.

In another part of the casino, analytical software spots a new customer playing a $10 slot machine. According to the loyalty card data gleaned from the machine, this player lives near the casino. The analytical software knows that usually, more experienced gamblers play the $10 slots. The software figures out that this experienced gambler must frequent a competing casino in the area. It alerts the casino's marketing department to begin targeting this player more aggressively.

The house wins again.

Thanks to the technological leadership of their CEO Gary Loveman, Caesars Entertainment is employing just such Big Data strategies at their casinos across the country, improving gamers' experiences, and of course, the casinos' bottom lines.[7]

Listening behavior data is music to a record exec's ears.

How can Big Data make a new artist a bona-fide pop star? Consider this scenario:

A record company is marketing one of their artists aggressively to the youth market. However, their analysis of various data shows that this artist is picking up fans among an older demographic, as well as more casual music listeners.

With this information, the label can justify funding and developing a more robust marketing campaign for the artist. The campaign results in an increase in listeners, and a number-one hit for the artist.

EMI was able to accomplish exactly this kind of by success analyzing data from two datasets: a set of interviews conducted with music fans in 25 countries, and analytics from Spotify, a popular online music streaming service.[8]

Big Data gives disaster victims a lifeline to their insurance company

How can an insurance company handle a post-disaster flood of insurance claims from victims – many of whom have nothing left but the clothes on their backs and a mobile phone? By having the right Big Data tools in place.

Imagine this. A hurricane devastates several cities in Florida, leaving tens of thousands homeless or in need of assistance — and needing to quickly make an insurance claim to start rebuilding their lives. Fortunately, a major regional insurance company has thought ahead.

Thanks to Big Data technology, policy holders can submit information about their needs via email — or even on the company's Facebook, Twitter or LinkedIn pages—on whatever mobile device they can get their hands on.

Using social media scanning and content analysis software, the company's system is able to gather the victim's information in whatever format it arrives in. The company can then instantly send a reassuring confirmation message to the victim. It can even start populating a claim form with the data it's gathered and send the form to the victims' insurance agents to expedite the claim.

Security First Insurance in Ormond Beach, Florida, teamed with IBM to build just such a system. Says Werner Kruck, the company's chief operating officer, "When customers contact us through their iPhones, Facebook, Twitter, LinkedIn or email, they receive the same timely attention as when they call the company or go to our web portal."[9]

These are just three examples of how the smart use of Big Data is already helping businesses better understand their customers, and grow profits, in very different industries.

Big Data could be a big help to the public good.

While Big Data can be a useful tool for those businesses seeking to make even bigger profits, it can also be put to work to help the greater good, as the following statistics illustrate:

- The US healthcare system could use Big Data to creatively and effectively drive efficiency and quality, creating $300 billion in value every year. Two-thirds of that would be from reductions in healthcare expenditures.[10]

- European governments could save more than €100 billion in operational efficiency improvements alone, not including the savings incurred by using Big Data to reduce fraud and errors and boost collection of tax revenues.[11]

- Smart Routing—the use of rapid data analysis to direct road traffic— has the potential to create $500 billion in time and fuel savings by 2020. Real-time, up-to-the-minute reporting of accidents, traffic congestion and roadwork to drivers could save every individual driver up to 15 hours per year. That's 20 billion hours in total![12]

What these case studies and statistics indicate is that there are plenty of "salmon" swimming in the deep, fast-moving waters of Big Data information stream. They're just waiting to be caught and converted to the insights that will fuel businesses and governments in tackling some of the thorniest public policy issues.

[FOOTNOTE]:

7. The Economist Intelligence Unit – Big Data Lessons from the Leaders. http://www.sas.com/reg/gen/corp/1774120 .

8. The Economist Intelligence Unit – Big Data Lessons from the Leaders. http://www.sas.com/reg/gen/corp/1774120

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