

Handling Big Data:

Preparing for the Big Data Surge



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What is Big Data?

Big data is a hot topic that is being widely discussed across various industries internationally. This is due to the surge of new information that is derived from various sources such as social media, the internet, and internal enterprise sources. While big data was not as pressing of an issue a few years ago as it is now, companies have now automated most processes within their enterprise. Where there is automation, there is also the collection of data.

These large pools of data are being collected enterprise-wide, so their size knows no bounds in terms of bytes. While a few terabytes was more than enough a few years ago, we are now in the age of petabytes, so storing and then being able to analyze this enormous amounts of data can prove to be highly beneficial for a company.

Constantly increasing volumes of structured and unstructured data has made companies think over the strategy to harness big data, especially since orthodox methods have proven to be difficult to bring structure to data sets.

While the volume of data is constantly increasing, the true value it provides has not been fully discovered yet. For instance, the utter difficulty of how to store and file large data storage, along with the informational strategy required to access it, has made it problematic for enterprises to make use of this obtained data.

The four big V's concerning big data are Volume (scale of data), Velocity (analysis of streaming data), Variety (different forms of data), and Veracity (uncertainty of data). If an organization understands and solves these four V's it can fully discover the potential of big data.

Even though there is a lot of media coverage on the collection of gargantuan amounts of data at enterprises (commonly known as the Petabyte Age) and what technology is involved in the process, few have discussed the aspect of usability of this data.

Volume

Velocity

Variety

Veracity

The orthodox tactic of handling big data involves replacing SQL with other tools such as MapReduce. However, the enormous volume of data stored in a routinely analyzed data set does not fix the more relevant problem, that business users face difficulty focusing on large amounts of files, tables, web sites, and data storage, all of which are contents that can be used for in-depth analysis. The picture has moved beyond just data warehouses, although data warehouses are a very important part of collecting and analyzing big data.

This blown-out-of-proportion hype about big data revolves around the mindset that it doesn't work well in regular Business Intelligence systems and warehouses due to its large volume, disparity, and the speed at which it is collected and modified.

Another common issue facing big data analysis right now is intuitiveness or usability. This whitepaper discusses how big data can solve your business problems and what plan of action enterprises must develop and execute in order to make it through the Petabyte Age and harness the power of big data to their advantage.

Big Data Can Unlock Vital Information

The vast amount of corporate information available is becoming a challenge for enterprises. Disparate sources of data such as data marts, data warehouses, social media, websites, files, etc. contain valuable information that can be used to make profitable and strategic business decisions. The majority of companies are facing a problem; that various processes and systems developed specifically to assimilate all information from disparate data sources do not have the user friendliness or intuitiveness to be properly organized in a data warehouse for immediate analysis. The usage of Excel and other spreadsheet tools to assimilate information only makes matters more complex for enterprises because spreadsheets are not the most effective tools for data analysis.

Big data is often referred to as a problem because enterprises have difficulty processing it with their traditional systems that are based on relational databases. However, this is an amazing opportunity to not only improve, but change the way you do business. Big data value is highly significant because it leads to innovation, possibly in the form of enhanced pricing models, new methods to engage partners and customers, different product ideas, or new marketing strategies.

Applying Data to Real World Problems

Here is how big data can be used to solve real world problems.

- 1. Making better decisions:** Big data provides decisions makers with enriched information that may help them make more profitable decisions in the best interest of the enterprise. For instance, if you analyze a customer's profile on a social media platform, you can understand that customer better and their location in the world. This information can be used to improve the way you handle that customer, and other ones from that geographic location.
- 2. Find Out New Insights:** Analyzing big data may allow you to discover insights that were previously hidden. For instance, if you evaluate customer surveys when trying to find out the root cause of a high cancellation rate, you may detect the main cause that previously wasn't known. This will help retain customers in the future and be profitable for the enterprise in the long run.
- 3. Systemize Business Processes:** Big data analysis lets you identify and rectify patterns that lead to poor company performance. For example, if your company trades stock, big data empowers you to review common patterns that lead to bad trades. You can even automate processes to ensure that different steps are taken the next time that specific pattern is detected. Big data lets you be proactive rather than reactive.

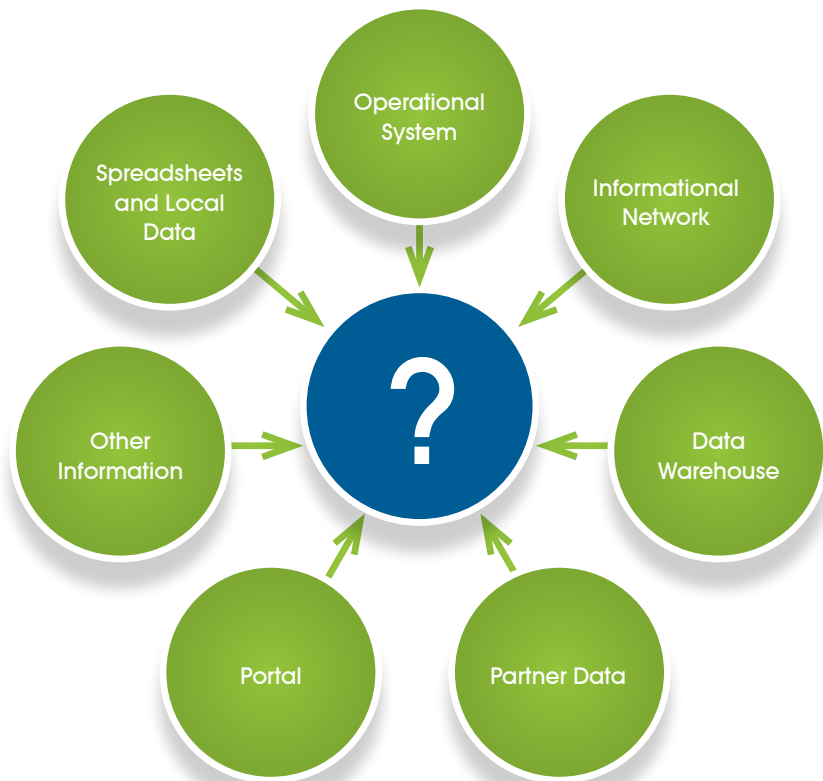
Various factors make the analysis of big data complex. These include the intricacy of data, the timing of data, the complexity of the integrated company warehouse, and identifying what data is most important.

- 4. Unlock Business Potential.** Big data allows you to unleash true value by creating transparency in information. A lot of information is still not acquired in digital form, such as data on paper, or some information is not accessible through networks. This is inefficiency that can be removed by big data.
- 5. Be Aware of Every Business Aspect.** Organizations are creating and storing more transactional data in digital format. This allows them to acquire more accurate and updated performance information that can range on anything from sick days to product inventories, therefore it exposes inefficiencies and boosts performance.

- 6. Offer Proactive Customer Support.** Big data is already being used to create the next generation of services and products. For example, some manufacturers are utilizing data acquired from sensors placed inside products to create comprehensive and proactive after-sales service such as maintenance to avoid device failure.

Big data continues to solve numerous real-world, current day problems. That's why it should be a part of any organizations technical department, so it can provide the appropriate solution once the problem is discovered. Some common examples of big data solutions applied in the real world include analyzing a company's weblogs to interpret how people interact with the website. Their behavior and actions such as where they navigate to, where they leave the website, and what pages are visited most often can be analyzed. Enterprises also monitor common sentiment about their company on social media platforms because through big data, they can see if people are saying positive or negative things about them and what people are saying about competitors.

Big Data Solutions



Here are a couple of reasons why it is important to analyze complex big data to generate insights:

Well-Informed Consumer

Since the advent of smart devices and social media, customers have access to a wide range of information at the click of a button or tap on a screen. So they gather and analyze data in a more sophisticated manner now more than ever.

A Globalized and Well-Connected Economy

Companies across industries are on the lookout for seamless information that can provide market insight into the factors that ultimately spell failure or success for them. This sort of approach requires harnessing the true power and knowledge that big data provides.

Common Issues in Big Data Analysis

While big data can be highly beneficial and holds a lot of potential for an organization, there are still several challenges that need to be overcome in order to be successful in big data analytics. Here are the four biggest challenges to overcome with big data.

Data Volume

Since there is so much information available, it becomes difficult to process it at a standard speed so that it can be accessed by decision makers as per their request.

Data Integration

Data usually comes from disparate sources, therefore integrating it in a similar structure within a reasonable timeframe and an affordable price tag may be difficult. With such disparity, another challenge is how to control and manage the quality of data so that it provides crucial information in less time, and connecting useful data from the data warehouse with less understood data.

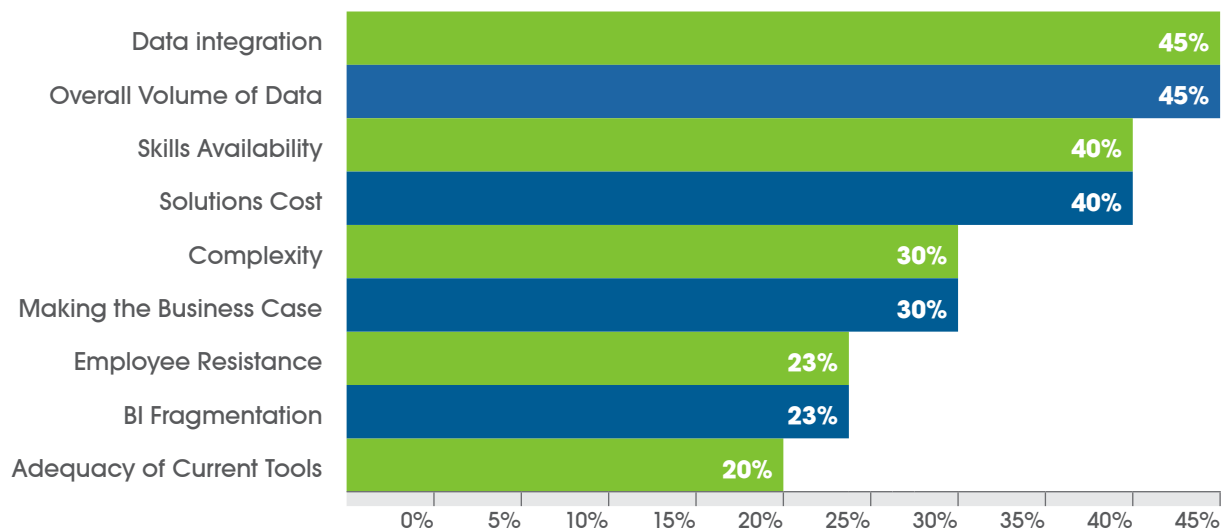
Availability of Skills

Since big data is harnessed with new and innovative tools, there may be a lack of professionals who can amalgamate, analyze and publish big data results.

Cost of Solution

Since big data is relatively new and provides limitless opportunities for business improvement, there is also a lot of experimentation and learning going on to figure out relevant patterns that matter and what data can help make valuable decisions. So it is vital to bring down the cost of solutions that are utilized to find value in big data, in order to have a positive ROI.

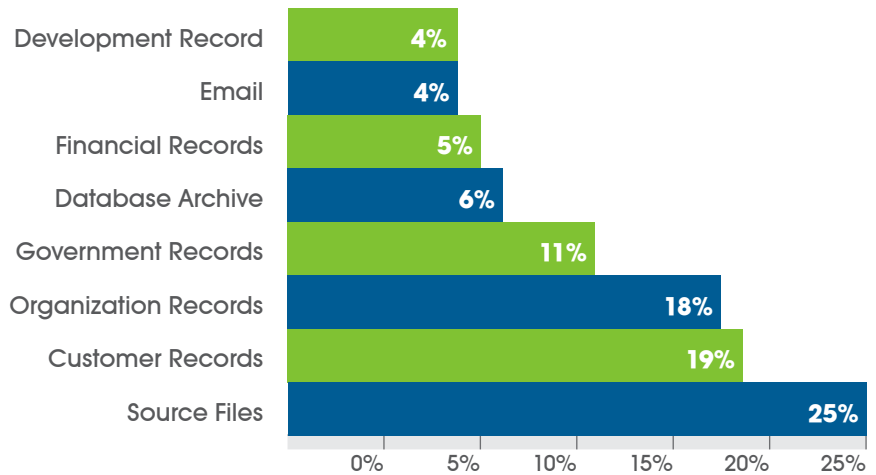
Biggest Challenges in Big Data and Analytics Success



Now Is The Right Time To Analyze Big Data

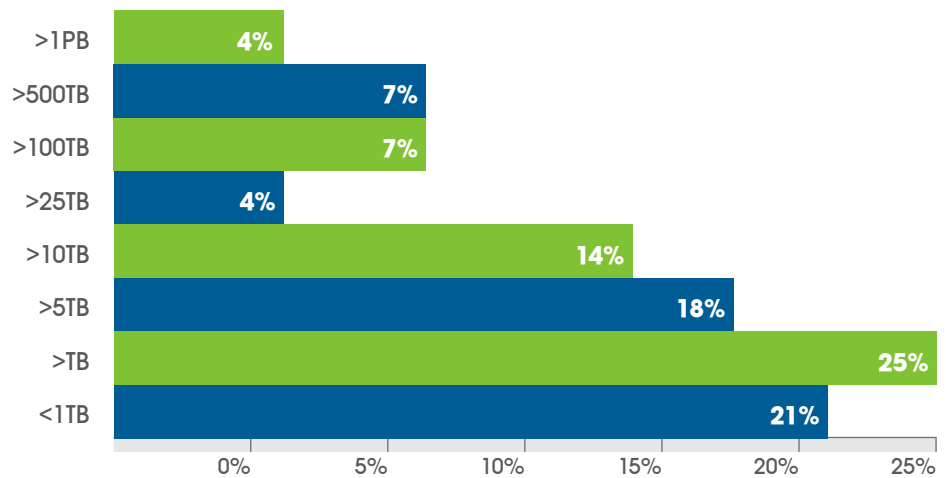
For the past decade or so, we have mostly seen IT firms and Business Intelligence companies pay more attention to manage a small amount of the total data available for decision making. This segment of data was limited to structured data that was mostly developed by or stored in huge enterprise systems, such as CRM or ERPs. Other data was cast aside and business users were left on their own to make sense out of it.

Types of Information Held the Longest



This “other data” included data from customer surveys, contracts, distribution partners, real-time sensors, government studies, and customer social media information. This portion of data amounted to over 80% of total enterprise data. It held a lot of valuable information that could lead to the discovery of different patterns and root causes of operational or other types of failure. However, making sense and locating bits of information in this vast sea of data was difficult through traditional relational databases.

How Much Info is Retained



Conclusion

Big data is a vital topic that various executives are discussing on their agendas. It is a true technology driver and can prove to be a great investment for any company, large or small. However, there are some integration issues that early adopters are facing when it comes to gathering, indexing, and then analyzing big data. This however is only a momentary concern because Cogent Data Solutions can offer a comprehensive big data solution that can make you an industry leader.

Our existing clients are already taking advantage of big data by identifying inefficiencies, using predictive analytics to anticipate certain events, and to prevent financial fraud. Some are even innovating and improving their products through it. The fact of the matter is, sooner or later, all companies will have to embrace big data and use it to their advantage. Failure to do so will affect the business' sustainability in the long run. So stay ahead of the curve and let Cogent Data Solutions help you reach the pinnacle of success through big data analysis.

About Cogent Data Solutions

CDS is a leading provider of big data services. Regardless of how small or large a company is, CDS delivers effective and precision-based solutions that yield results. When you need additional staff or additional technical support, CDS provides industry professionals that have vast knowledge in data warehousing and business intelligence.

CDS has proven project methodology that ensures successful management and implementation of business intelligence and data warehousing solutions. CDS' project delivery team offers a delivery model that ensures profit maximization by comprehensive coordination between teams and integrating big data solutions. Visit www.cogentdatasolutions.com for more information.



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