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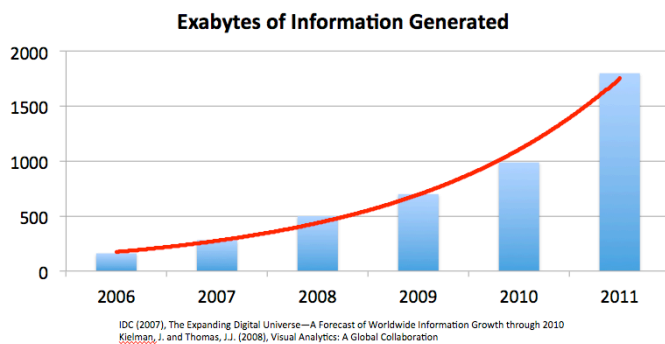
How Smart Companies Manage Data in the 21st Century

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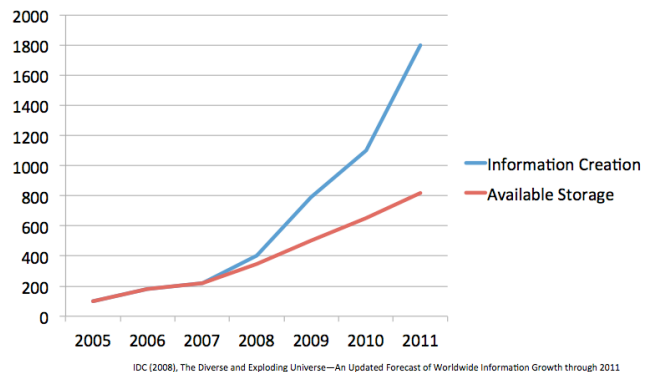
The Data Explosion

In the past 10 years, data generated globally has grown faster than our ability to store and manage it. According to IDC, “Over 2 gigabytes of information are being produced per person, per year. 95% of that data is unstructured with only 25% being images”¹. The experts predict that mobile devices alone will generate 6.3 exabytes of data by 2015, 26 times more than today. Even more surprising, IDC states that “Almost half of the digital universe does not have a permanent home”². With the pressures to increase network security and adhere to regulatory standards, data management is one of the most pressing challenges for business IT executives today.

Growth in Recorded Media and Electronic Information Flows



Information Creation and Available Storage (in Exabytes)



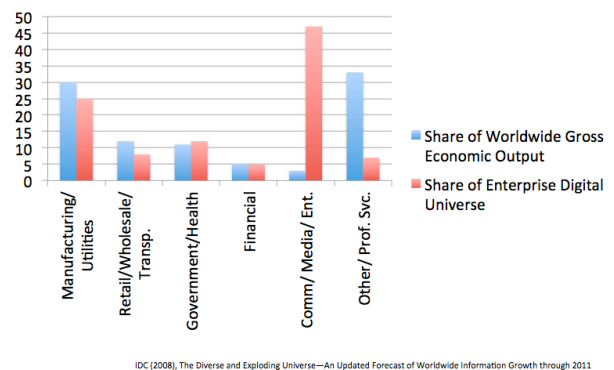
The media and entertainment industries lead the way in data growth, with music, video and image-rich content creating the lion’s share of the data explosion. The retail, professional services, manufacturing, healthcare and finance industries are also big contributors to the growth of the digital universe.

Trends in Data Warehousing

Industry now has no choice but to treat data and information much more formally, and have adopted security standards and best practices to manage their data. According to Gartner Research³ the top data warehousing trends for today’s businesses include:

- **Optimization and Performance** – No matter the size of the database, companies now maintain discipline around optimization, compression and performance.

Digital Universe by Industry* in 2007

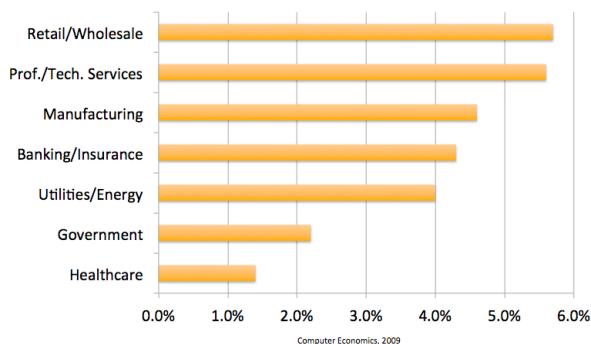


- **Data Warehouse Appliances** – Companies are investing in an appliance-based approach when dealing with data warehouses. The ease of installation and management make the training investment low, and appliances are pre-tuned to deliver better performance than “home grown” data warehouses.
- **Intensive Proofs of Concept** – Real company data is now commonly used to prove out new software and hardware solutions for IT. These proofs of concept are much more demanding than those performed in the early 2000s, due to the increased need of performance from the solutions managing the data.
- **Data Warehouse Workloads** – Data warehouses are now required to perform exceptionally well for all of the six major data warehouse workloads:
 - Bulk/batch data loading
 - Basic reporting
 - Basic online analytical processing (OLAP)
 - Real-time/continuous data loading
 - Data mining
 - Operational business intelligence (BI)
- **Data Warehouse in the Cloud** – Cloud storage is an emerging infrastructure design choice that supports analytics in a cost-effective manner. Security and regulatory compliance still seem to be challenges with this alternative. However, new technologies and standards continue to evolve making this a viable option for many businesses.

Getting Actionable Information out of Data

It takes expertise and experience to manage data and information effectively, and to uncover quantifiable information from the data. Information integrity is important when entering, capturing or storing data. Typographical errors and duplicate entries lead to resources wasted on mailing and shipping fees. Fragmented or incorrect information can lead to false or incomplete business intelligence and/or operational reports. Many companies are investing in master data management

Median DW/BI Staff as a Percentage of IT Staff by Sector



software solutions in order to have a “single version of the truth” for every master record from their enterprise applications. Cleansing tools are also used to ensure the quality of data. Data that provides a holistic view of customers, products and/or services is the foundation for a profitable business intelligence strategy.

Business Intelligence skills are also in great demand. The data mining projects once run exclusively in academic environments by individuals with advanced degrees are now commonplace in the corporate

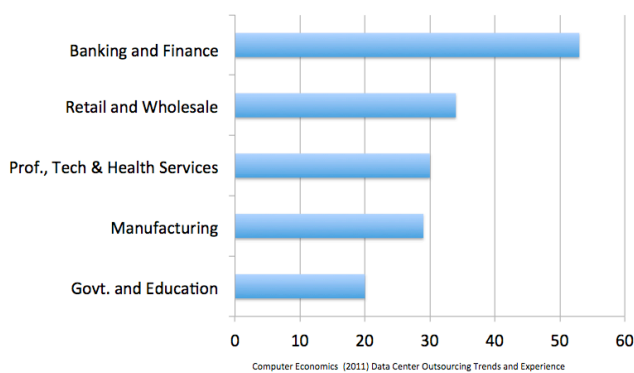
world, as businesses attempt to find hidden gems of information in their data.

The expertise required for effective business intelligence and data mining is expensive and scarce. Most companies surveyed admit that their data management and intelligence departments are understaffed and unproductive. Besides directly hiring expensive professionals, businesses also leverage outsourcing as a way to cost effectively staff their data management and intelligence departments.

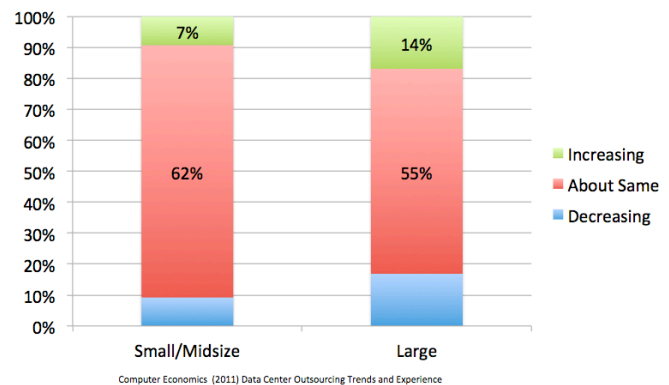
Outsourcing to Support the Data Explosion

Outsourcing has developed into a viable option for businesses of all sizes. Outsourcing is no longer just about off-shoring. Once the preferred method of outsourcing, off-shoring is now just one of the available options used by companies employing best practice in data management. Today, smart companies combine “on-shoring” and cloud resources as part of their outsourcing strategy. Outsourcing is continuing to grow across all size businesses. *In 2008, 3.8% of the IT budget spend was dedicated to outsourcing, in 2011 that number has increased to over 8.3% of the total IT budget⁴.*

Percentage Outsourcing Data Center Work, by Sector

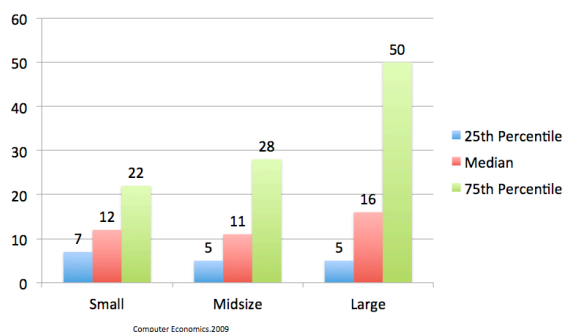


Percentage Changing Amount of Data Center Work Outsourced, by Organization Size



Businesses see the benefits that come with engaging with a reliable outsourcing partner, including pooled resources and consistent coverage. For expensive resources like database administrators (DBAs) and business intelligence (BI) professionals, it makes sense to outsource whenever possible, especially for small to mid-sized businesses.

Terabytes of Storage per DW/BI Staff Member



Outsourcing success relies heavily on the expertise and stability of the partner the business selects. A quality partner should have a long, successful track record and should be experienced in instituting robust business processes and creating widely adopted standards. In data management - where Oracle software leads the market, the partner’s DBA

staff needs to be educated and specialized in specific areas, including data warehousing. The partner's support policies must also be verified, since 24 x 7 x 365 support is now required.

For businesses that choose to employ data management professionals instead of outsourcing, the amount of data that is managed by each staff member is increasing. This is another reason why formal processes, as well as database management tools, are used to ease management overhead. This also means that the internal IT staff must be continuously educated on technology and trends and have formal company training programs to effectively manage the talent needed to reduce data risk. Education and training add to the overhead to employ the required number of data professionals internally.

To reap the rich rewards of managing your data efficiently and effectively for your business, you must first develop systematic processes and then strategically implement them. The problem is that most executives just don't have the time to focus in just this one area. Today's executives are expected to use technological innovation to protect and grow their business.

If this sounds like the pressure and demands you face, then you need to review our comprehensive report, "***The Growing Epidemic of Complacency Infecting U.S. Businesses.***"

This report has been sponsored on your behalf and is available to you at no cost, courtesy of Centroid. This report details major stress factors facing executives as well as information on the trends, forecasts and benchmarks companies need to be successful today. Through this report, you'll learn what successful companies are doing to stay ahead of their competition. The report also covers industry facts gleaned from years of research on companies that have created opportunities for new growth and innovation with the wise application of emerging technologies.

"***The Growing Epidemic of Complacency Infecting U.S. Businesses,***" contains the following information:

- ❖ The chaos of U.S. business today
- ❖ The threats and potential of technological innovation... grabbing the snake by the tail
- ❖ How technology, done right, can simplify and magnify innovation
- ❖ 5 major technology stressors executives face today

To give you every advantage, Centroid has invested in an extensive research project to create this report at absolutely no cost to you. We believe you will benefit greatly from this information. The report is fast-paced and is designed to be able to be viewed quickly and succinctly. Graphics, illustrations and bar charts are used everywhere to make the communication experience stimulating and entertaining.

To arrange to review your free personal report, go to <http://www.centroid.com/growing> to register.

¹IDC (2007), The Expanding Digital Universe—A Forecast of Worldwide Information Growth through 2010
Kielman, J. and Thomas, J.J. (2008), Visual Analytics: A Global Collaboration

²IDC (2008), The Diverse and Exploding Universe—An Updated Forecast of Worldwide Information Growth through 2011

³Gartner Research (2011), Key Data Warehousing Trends for the CIO in 2011 and 2012

⁴Computer Economics, IT Outsourcing Statistics 2010/2011



Detroit

900 Wilshire Drive
Suite 273
Troy, MI 48084
(p) 248.465.9533

Dallas

14801 Quorum Drive
Suite 150
Dallas, TX 75254
(p) 214.347.8847

Hyderabad

No. 304, 3rd Floor
Fortune Chambers, Image Garden Lane
Madhapur, Hyderabad 500081 India
(p) 040.40170434

sales@centroid.com

