BIG DATA
AND THE PSYCHOLOGIST'S ROLE ON THE ANALYTICAL TEAM

From 2005 to 2020, the digital universe is expected to grow from **130** to **40,000 exabytes.** As the digital universe continues to grow, so will the amount of data, creating jobs and revenue. More people will be needed to analyze the data, and psychologists will play a part in this growth

BIG DATA'S IMPACT ON PSYCHOLOGY

Big data is a term describing extremely large data sets that may be analyzed to give insight into patterns and trends relating to human behavior

By the year 2020, about **1.7 megabytes** of new information will be created every second for every human being on the planet

More data has been created in the past two years than in the entire previous history of the human race big data can corporate processes with which psychology is concerned

Marketing, advertising and decision making can all benefit from the insights contained within large data sets

By then, our accumulated digital universe of data will grow from 4.4 zettabytes today to around 44 zettabytes

The industries that amass these billions of bytes of data are increasingly hiring psychologists to help make sense of it

1. Psychologists trained in interpreting numbers and human behavior are key members of many analytical teams
2. Psychologists across hospitality, retail, consumer products and software industries use data analytics to improve how their organizations are run
3. Most big data psychologists work in large organizations, such as Fortune 500 companies

The explosion of social media has led to the sharing of personal and intimate details about ourselves

Industrial-organizational psychologists have long recognized the value of science and data analysis for improving business and human resources (HR) decisions

Most marketing analytics are built on statistical models of phenomena that are fundamentally psychological

Anyone who has worked with large volumes of behavioral data knows that past behavior often does predict future behavior

EXAMPLE: Personal credit information not only predicts who is likely to default on a loan; it is also strongly predictive of who is more or less likely to experience an auto accident

Behavioral data can be used not only to predict future purchase behavior, but the presence of such lifestyle diseases as diabetes and hypertension

For example, the leaders of Google's *"project oxygen"* found that technical ability ranked least important on the list of google's big eight attributes for managers

Less quantifiable attributes such as empowerment and caring for the career development of team members were found to be more important

WHAT'S SO BIG ABOUT BIG DATA?

1. The consultancy DNV GL Business Assurance, in partnership with research institute GFK Eurisko, **polled** 1,189 enterprises across the globe to better understand their big data plans. A majority of these companies—**52 percent—see big data as a big opportunity**. That number climbs to 70 percent among large companies (1,000-plus employees) and tops 96 percent of those the report authors categorize as "Leaders."

2. **Estimates suggest** that by better integrating big data, healthcare could **save as much as $300 billion a year** — that's equal to reducing costs by $1,000 a year for every man, woman, and child. And retailers who leverage the full power of big data could **increase their operating margins by as much as 60%.**

3. For a typical Fortune 1000 company, **just a 10% increase in data accessibility could result in more than $65 million in additional net income,** according to a recent **Forbes article**.

4. According to a **study out of MIT**, companies that inject big data and analytics into their operations show productivity rates and profitability that are **5% to 6%** higher than those of their peers.

5. A study released by the **Economist Intelligence Unit** in January 2016 reported that 60% of the professionals they quizzed feel **data is generating revenue** within their organizations and 83% say it's making existing services and products more profitable.

REAL WORLD EXAMPLES

"The Durkheim Project" is an ongoing program that uses big data technologies to tackle the issue of suicide in the veteran population

By monitoring the data from social networking accounts of U.S. military veterans, big data analytics are used to predict the individual's risk of suicide in real-time

The hope of this project is that it could be used to offer intervention to those at-risk individuals who may not be identified otherwise

Salesforce.com is taking steps to hire and cultivate employees based partly on their social intelligence

The data gathered to measure this psychological trait is gleaned from such methods as team-structured, workshop-style interview days, personality modeling exercises and participation on the organization's online social collaboration tool

Armed with a grant from the National Institutes of Health (NIH), psychologists, computer scientists, engineers, statisticians and physicians from 11 universities are joining forces to make sense of data

The National Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K), based at the University of Memphis, is just one component of NIH's Big Data-to-Knowledge initiative

MD2K's goal is to find new ways to gather data from wearable sensors worn by people to track their movements, physiological states and behaviors — and turn it into useful, usable information to improve health

LittleBigJob, a sourcing tool (direct approach recruiting) that incorporates algorithms to qualify profiles found on social networks, matches eight million Canadian profiles with requests submitted by a recruiter

The platform is one of only a few on the market that can claim to deliver predictive recruiting based on the career data of candidates active on the web

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