

Data LEADING THE WAY

► From R&D to commercialization, the proliferation of data points and sophisticated analytic tools are leading to new insights across the continuum.

For life-sciences companies, there is tremendous wealth that can be tapped within a wide range of data relating to brands, products, physician practices, R&D, regulatory and compliance, formularies, rebates, and prescription use. When life-sciences organizations treat data as a strategic asset, they can transform their operations into analytic-driven leaders, gaining significant advantage.

Over the past 10 years, the pharmaceutical and life-sciences industry has been flooded with data. And the information flow is not about to slow down. More data are expected generated by the proliferation of personal medical devices, social media, and electronic medical records. The global wearables market

alone is expected to reach a value of \$19 billion in 2018, according to Statista, more than 10 times its value from five years ago.

Big data and good analytics no doubt have the potential to transform the industry but only if companies can translate it into actionable business intelligence.

According to PwC's 2014 global data and analytics survey, 62% of pharmaceuticals and life-sciences executives have changed their organizations' approach to decision making as a result of data and analytics. They're using new, richer sets of data and training executives on the benefits of analytical techniques. Another 24% haven't made these types of changes yet, but they plan to do so.

The decision to create a new business model that focuses on real-world evidence and outcomes, redefine pipelines or seek new ways to enhance existing R&D models, or to partner with other companies to enhance adherence and healthy lifestyles, are just a few of the decisions that executives throughout the life-sciences industry are facing. And the decisions are huge. PwC reports that one-third of executives who participated in the survey value their next big decision at \$1 billion or more.

PwC analysts say the plethora of newfound data made available by modern technologies and generated directly by consumers can give manufacturers valuable insight into how

EXECUTIVE VIEWPOINTS



EILEEN MOYER
Senior Principal,
Technology and
Applications
IMS Health

DELIVERING

ACTIONABLE INSIGHTS

As we continue into the era of big data, investments in integration, standardization, and interoperability become imminently important. A company's information management program must be both flexible and scalable to deliver actionable insights as well as provide the ability to track new campaigns, measure ROI, and adapt to changing market conditions. Investments in integration, standardization and interoperability are of paramount importance. To this end, companies should strive for a single integrated information management platform that allows the information model to be extended as new sources are identified and additional applications and processes integrated into the framework. With the correct alignment of people, processes, and technology companies can effectively manage

the demand for the most accurate information required to optimize commercial operations.

INSIGHTS INTO ACOS AND IDNS DRIVE OUTCOMES

The proliferation of integrated delivery networks (IDNs) and accountable care organizations (ACOs) as well as associated prescriber affiliation changes have significantly impacted prescribing patterns. An effective information management solution should be able to capture and manage new information on the influence of ACOs, IDNs, payers, and plan affiliations. As a result, these new insights into which hospitals and providers are affected by these changes will allow life sciences companies identify the best ways to approach these institutions with new therapies that will drive positive patient outcomes.



ANGELO CAMPANO
Senior Consultant
Ogilvy Healthworld's
Marketing Analytics &
Consulting group

BIG DATA BENEFITS

Marketing strategy for a patient experience can

benefit from big data. The use of big data sets for setting reasonable performance objectives and goals is where we need to begin to look to improve. This overburdened role is where owned data shines most as a strategic asset. By using forward-looking tools such as prognostic analytics, marketing objectives will be evaluated, measured, and grounded in practical market data and overall performance. Big data sets the performance tone and becomes the guideline during the work. Understanding how to use big data to improve the patient experience is crucial. Extracting the data related to patient context, and research data is (or should be) intricately linked to big data in order to bring the insights and actionable implications to light and ultimately improve the patient experience.



RAMON CHEN
VP Marketing
Reltuo

ACCELERATING DATA INTEGRATION

Over the last 10 years the best practice has been to use a discipline and technology known as master data management

patients are using their products. This information can help give payers the real-world evidence they demand to prove the efficacy and value of new drugs and devices. The challenge lies not in collecting this data, but in harnessing, parsing, and analyzing it to create competitive advantage. Insights and intelligence derived from fast-moving data sets can help inform strategy decisions, spur innovation, inspire new products, enhance customer relationships, and bolster operations.

Fortunately, say experts at SAS, a number of technology advancements have occurred or are under way that make it possible to benefit from big data and big data analytics. For starters, storage, server processing, and memory capacity have become abundant and cheap. The cost of a gigabyte of storage has dropped from approximately \$16 in February 2000 to less than \$0.07 today. Storage and processing

technologies have been designed specifically for large data volumes. Computing models such as parallel processing, clustering, virtualization, grid environments and cloud computing, coupled with high-speed connectivity, have redefined what is possible. SAS has identified three key technologies that can help companies get a handle on big data – and even more importantly, extract meaningful business value from it.

- ▶ Information management for big data. Manage data as a strategic, core asset, with ongoing process control for big data analytics.
- ▶ High-performance analytics for big data. Gain rapid insights from big data and the ability to solve increasingly complex problems using more data.
- ▶ Flexible deployment options for big data. Choose between options for on

premises or hosted, software-as-a-service (SaaS) approaches for big data and big data analytics

Data and Privacy

PwC has identified four factors that will drive big data and privacy protections.

The first is laws and regulations. When state and national governments harmonize and enforce privacy and databreach laws and regulations, organizations will likely be inspired to report data breaches and share cybersecurity information without fear of penalty or litigation.

Organizations should be encouraged to adopt new approaches to cyber-breach notifications, reasonable-use policies, and cybersecurity information sharing.

The second factor is the openness of the

(MDM), combined with data integration tools that continue to pull and synchronize sources across multiple siloed applications such as CRM, ERP, HR, and financials. This technique was intended to have a central location where data could be cleansed and augmented, and individuals, products, organizations, and locations could be matched and cross-referenced so that a single view of an HCP or HCO could be obtained. Unfortunately, this has been a challenge and a resource drain for most companies due to the complexity of implementation. Often costing millions and taking years, it was only affordable by the largest of pharma companies with large in-house IT resources.

While the increase in cloud/SaaS use has reduced the barrier to entry and cost, challenges still remain. Many of the “customer master” offerings are designed solely to improve the data quality of HCP/HCO for siloed applications such as CRM. This legacy thinking is holding back pharma companies from being truly data-driven. Companies must go beyond just cloud MDM to benefit from the increasing volume, velocity, and variety of information, continue to improve omni-channel interactions with HCP/

HCOs and increasingly complex IDN customers; become more patient-centric; and continue to meet tough compliance mandates.

Today, MDM (modern data management) combines, multi-domain MDM (any entity not just customer), big data transactions and interactions, social and third-party data, analytics, and machine learning. All delivered directly to the hands of frontline business users via enterprise data-driven applications that are just like Facebook and LinkedIn. These apps are mobile, collaborative, and continuously operate on reliable data to generate relevant insights and recommended actions to support real-time decision making and business goals, personalized to each user.

TAKING ADVANTAGE OF DATA-DRIVEN APPLICATIONS

Billions are being spent on big data technologies. New open-source offerings such as Hadoop, Spark, and others are literally coming onto the market on a daily basis. Regardless of the open source free aspects, no company can keep up with the tidal wave of skills, knowledge, and expertise required to implement and apply big data technology in the correct context of all of

the business challenges pharma faces today.

Companies should be looking for solutions that solve business problems with built-in capabilities to handle data at volume, velocity, variety, and veracity. Veracity, another word for data quality, means that big data also requires some form of master data management (MDM) discipline. Unfortunately, most technologies continue silo and treat MDM and big data as separate activities. Even more of an issue is that MDM and big data management is primarily an IT back-office activity. Frontline business users are left with the same old legacy on premise or even aging cloud-based SaaS applications. Meanwhile they use modern data management and consumer data-driven applications like Facebook and LinkedIn every day.

True success in the era of big data will come when pharma companies can take advantage of data-driven applications directly to address their challenges and emerging opportunities. They should worry less about what is Hadoop and a data lake and focus on more on how they can bring together all the data to uncover relationships, and guide business teams to collaborate and be more productive across the enterprise.

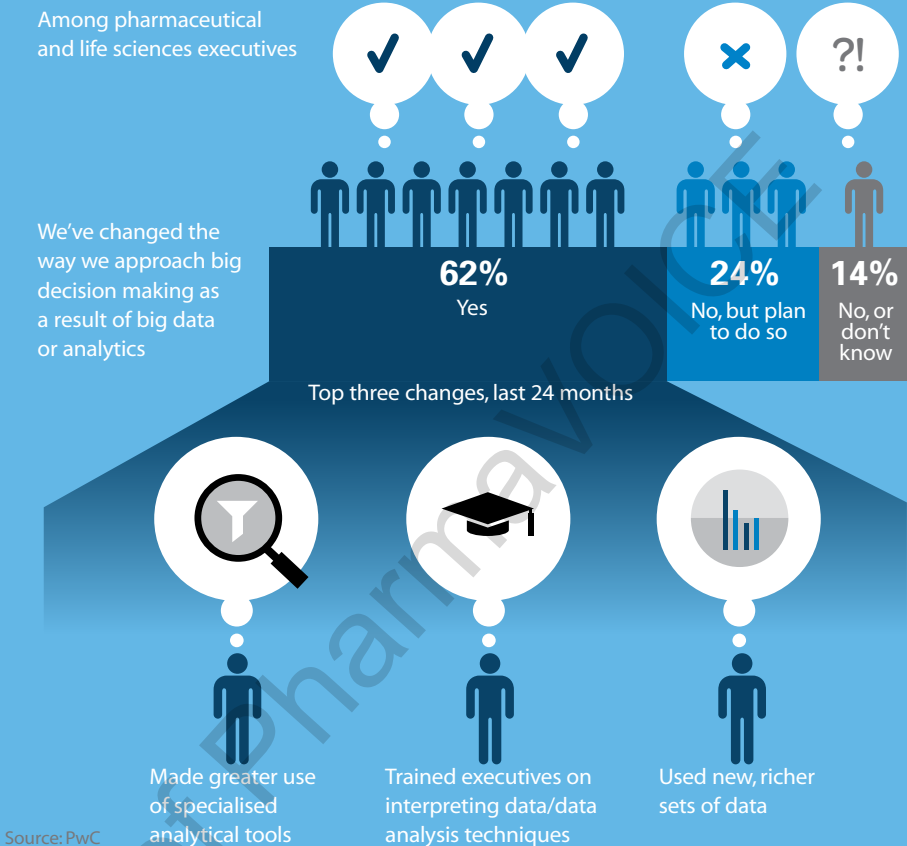
Internet. Debates over the future of big data are based on a common assumption that the Internet will remain a series of open networks through which data easily flows. Some countries have begun to harden their Internet systems, and the concept of net neutrality is uncertain. If the Internet becomes a network of closed networks, or walled gardens, the full potential of big data may not be realized.

Technology is the third factor. Implementing automated privacy profiles across multiple sectors could help ensure that organization-sponsored personal privacy profiles are accessible and adopted by consumers. Ease of use for customers across shopping channels, as well as genuine advances over current "notice and consent" systems, will be key. Commercial incentives from national and international bodies to invest in new privacy protection technologies could prove useful.

Finally, the fourth factor is regional innovation. Innovations in technological privacy protections in Asia and Africa may leapfrog big data analytics used in the United States and Europe.

The growing populations of Asia and Africa rely heavily on mobile technology for commerce and trade, and innovations in these areas could accelerate. Advances in digital payments, for instance, could provide new opportunities for adversaries to target and exploit payment systems. ^{PV}

Where change in decision making is starting to happen



Source: PwC

For distribution or printing rights, contact mwals@pharmavoice.com

IMS Health is making healthcare run more intelligently.

Engineered to address the complexity of global health information management, **IMS One** is a secure cloud-based information delivery platform that turns integrated information into actionable insights.

- Secure
- Flexible and Scalable
- Lower Costs
- Faster Implementation
- Reduced Complexity
- Speed to Insight

IMS One powers **Nexus**, an interoperable suite of best-in-class business applications developed specifically for life sciences.



The most powerful technology infrastructure in the healthcare industry.

Find out more: imshealth.com/cloud or call 206-493-5428.

imshealth
INTELLIGENCE APPLIED.

Ogilvy CommonHealth Worldwide

Ogilvy CommonHealth Worldwide (www.ochww.com) — **the health behavior experts of Ogilvy & Mather** (www.ogilvy.com) — **committed to creativity and effectiveness in healthcare communications, everywhere.** Our global headquarters are in Parsippany, NJ, with additional North American offices in Irvine, CA, Newtown, CT, Chapel Hill, NC, New York, NY and Toronto and Montreal, Canada. With 58 offices in 40 cities across 32 markets, our offices are located in key geographies aligned with healthcare's global footprint. Ogilvy CommonHealth Worldwide provides marketing services including behavioral insights, content strategy and management, digital, interactive and new media services, marketing analytics and research, media planning and buying, medical education, payer marketing and market access, professional advertising and promotion, public affairs and relations, relationship marketing, sales training development, scientific communications and publications planning services, and wellness and consumer advertising and promotion.

DATA IS THE NEW LIFEBLOOD OF LIFE SCIENCES

Bring together and uncover relationships across a vast amount of data to understand markets, drive revenue and reduce risk through actionable, real-time predictive insights.

Cloud-based Reltio data-driven applications enable the management of key accounts, affiliations, HCP/HCOs, products, plan and payers, patients, key opinion leaders, clinical trials and more.

Reltio
Be Right Faster



Bright lights. Second City.

We've made a name for ourselves all over the country, and now we're headlining in two great towns. The addition of Chicago-based Topin & Associates dials up the voltage on the HCB family's award-winning work in pharmaceuticals, devices, diagnostics, biotech and more. Get to know our creative prowess, digital know-how and incandescent talent at hcbhealth.com.

hcbhealth
— austin + chicago —

Austin: nancy.beesley@hcbhealth.com • 512.320.8511
Chicago: al.topin@topin.com • 312.645.0100