Deloitte.

Cognitive analytics™
The three-minute guide

Why it matters now

Even Einstein's brain wasn't big enough for big data

Most of the world's digital data is unstructured—emails and videos, images and sensor readings, plus the vast array of information available on the Internet, such as social media posts and academic articles. Making sense of this data is beyond the capacity of the human brain. So, by necessity, much of it has been ignored.

But that's changing as cognitive computing brings together natural language processing, probabilistic reasoning, machine learning, and other technologies to efficiently analyze context and find nearly real-time answers hidden within massive amounts of information. Plus, cognitive systems can even adapt and get "smarter" over time by learning through their interactions with data and humans.

Cognitive technologies have been around for years; what's new is the advancement in processing power that makes applying these technologies more feasible for quickly answering complex questions.

"Cognitive analytics" is a term used to describe how organizations apply analytics and cognitive computing technologies to help humans make smarter decisions.

Why cognitive analytics?

Bring together the best of all worlds

A cognitive system can provide real-time answers to questions posed in natural language by searching through massive amounts of information that have been entered into its knowledge base, making sense of context, and computing the most likely answer. As developers and users "train" the system, answers become more reliable and increasingly precise over time.

For example, a doctor can use cognitive analytics to quickly comb through medical journals, clinician notes, patient history, and other documents to find highly relevant information to improve a diagnosis or treatment plan. A call center representative can quickly answer a customer's question about camping gear by using a cognitive system that pulls information from product descriptions, customer reviews, sales histories, topical blogs, and travel magazines.

Many organizations may choose to continue to develop their advanced analytics capabilities while cognitive technologies continue to evolve. But for organizations that need to find real-time answers hidden within massive amounts of diverse data, cognitive analytics may provide a distinct competitive advantage.

The benefits

Mine untapped data sources
Rather than ignore unwieldy, diverse data formats, organizations can use cognitive analytics to quickly tap unstructured information—text documents, images, emails, social posts, and more—for useful insights.

Provide personalized services
Fast, efficient service is no longer enough to win today's consumers. Their loyalty is won by organizations that can provide highly personalized service based on what data says about their individual preferences and history.

Improve service consistency and quality
Humans often come to different conclusions based upon the same information. cognitive analytics can help reduce subjectivity in decision-making—and do it faster—by tracing how decisions are made and measuring the resulting outcomes, allowing leading practices to be shared across the organization.

Enhance knowledge sharing
Cognitive analytics can be used to amplify knowledge sharing, providing fast access to highly relevant answers and insights on demand.

What to do now

Begin with the end in mind

Leaders who stand to gain more value from analytics could start by reimagining how people access and use information to improve decisions and deliver more consistently high-quality, personalized products and services.

Focus on questions first—then tools

Analytics is about asking—and answering—smarter questions to get higher-quality results at a lower cost. What questions should you be asking to drive more value in your organization? What information is needed to answer these questions? Which tools can efficiently deliver the answers?

Build the business case

Evaluate labor-intensive processes—such as legal research or customer service—that could be streamlined by deploying cognitive technologies. Determine if the potential cost-savings could fund the capabilities needed.

Start small

If your organization could benefit from cognitive analytics, begin with a pilot project to gain experience and refine your business use case.

Time's up

Cognitive analytics is still in its early stages—and is by no means a replacement for traditional information and analytics programs. But for organizations that need to find real-time answers hidden within massive amounts of diverse data, getting a jump-start on building cognitive analytics capabilities could be a smart move.

To explore how cognitive analytics could create positive disruption and potential competitive advantages for your company, please contact us.

Contributor
Rajeev Ronanki
Principal
Deloitte Consulting LLP
rronanki@deloitte.com

Contacts

Forrest Danson
Principal
US Leader, Deloitte Analytics
Deloitte Consulting LLP
fdanson@deloitte.com

Vivek Katyal
Principal
Deloitte & Touche LLP
vkatyal@deloitte.com

Nick Gonnella
Partner
Deloitte Tax LLP
ngonnella@deloitte.com

Greg Swinehart
Partner
Deloitte Financial Advisory Services LLP
gswinehart@deloitte.com