



Digital innovation and how cognitive technology can enhance audit quality

The use of computer technology has been a mainstay in financial statement audits for decades. Typically, the programs auditors use gather, organize and present a limited sample of highly structured financial or operational data. But, recent advances in computing power will have a transformative impact on how audits are conducted. KPMG is at the forefront of this transformation working with leading technology companies, such as IBM and Microsoft, to adapt the processing power and analytical capabilities of cognitive technology to the audit.

The application of cognitive technology will fundamentally affect auditing by significantly increasing the auditor's ability to evaluate larger volumes of both structured and unstructured data. Automating the evaluation of financial and operational information creates the opportunity for our auditors to not only review larger data sets, but also enables them to sharpen their focus on higher value audit activities in areas of increased business risk and complexity.

KPMG is committed to fostering a culture of innovation in our audit practice. We know it's our talented professionals who are essential to our success – and combing their knowledge and skills with leading-edge tools will strengthen our capacity to deliver a robust and relevant audit into the future.

Unstructured Data Defined

Unstructured data refers to information that doesn't reside in a traditional row-column database, instead it is information that is contained in other formats or sources such as emails, free text documents, videos, photos, audio files, presentations and web pages.

What is cognitive technology?

Cognitive technology is a broad concept that involves the combination of many sophisticated analytic technologies such as machine learning, natural language processing, data-mining and pattern recognition. A major element of artificial intelligence, cognitive technology simulates human decision-making by analyzing data, generating hypotheses, and evaluating supporting evidence to make judgment-based decisions.

KPMG is developing these capabilities as part of a broader cognitive ecosystem that expands upon the firm's investments in the use of advanced technology and its commitment to continually raising the bar on audit quality.

The analytical capabilities of cognitive technology are well-suited to the increasingly data-driven processes prevalent in today's audit environment.

Cognitive systems mimic human brain functions

Perceive

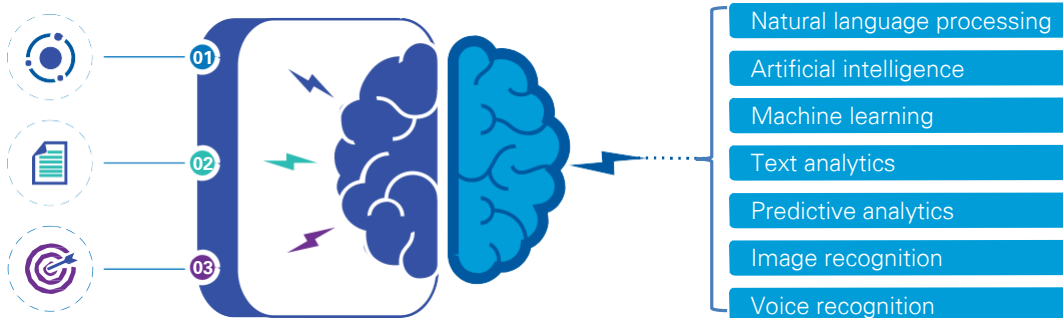
(interpret sensory input beyond traditional data)

Reason

(hypothesize, weigh supporting evidence)

Learn

(improve confidence levels with experience)



Key benefits of a cognitive technology-enabled audit:

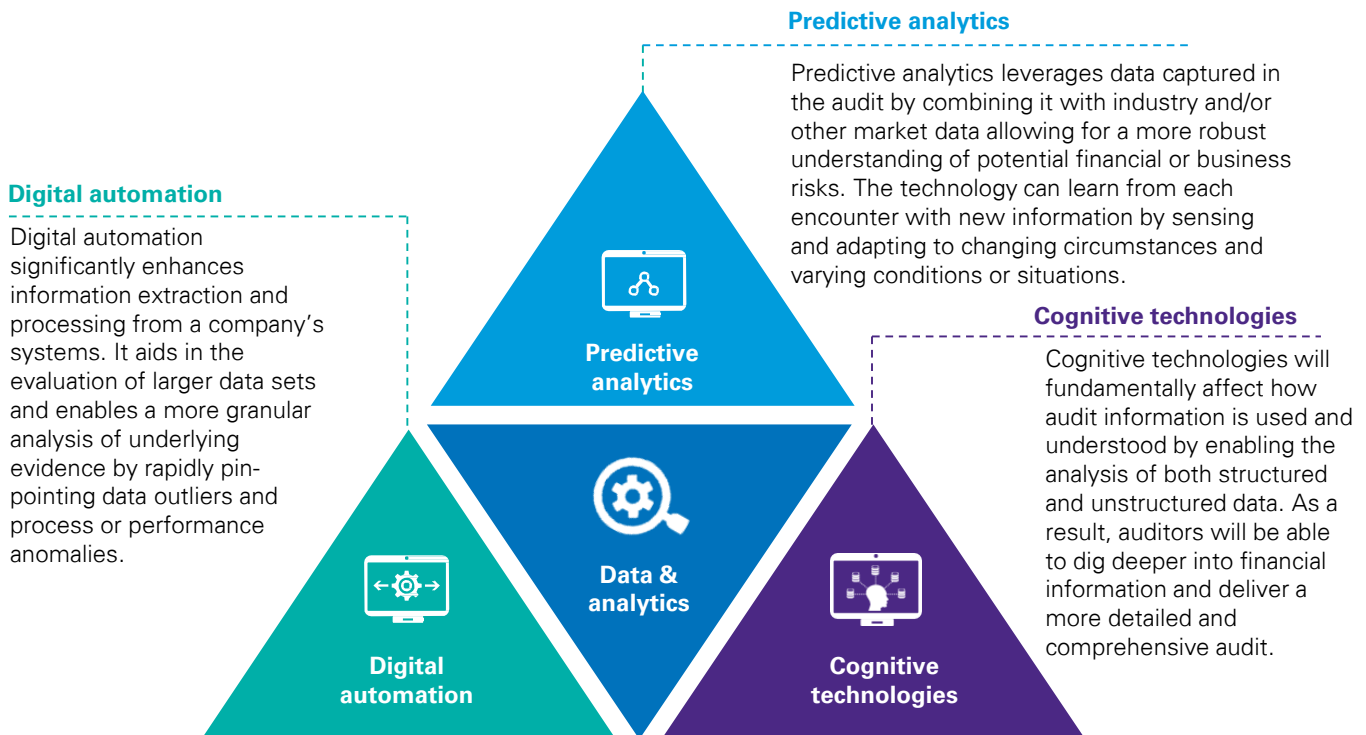
- **Advances quality** – Provides the capacity to review and evaluate more detailed transaction level attributes to obtain a better understanding of the company, its business risks and its operating environment.
- **Increases coverage** – Increases audit coverage by enabling the ability to assess the accuracy and validity of larger more complete volumes of both structured and unstructured data.
- **Broadens perspectives** – Enhances the transparency, consistency and depth of audit procedures and augments the evaluation of the effectiveness of company controls, accounting practices and reporting processes.
- **Heightens risk focus** – Enables auditors to intensify their focus on higher value audit activities in areas of heightened business risk and complexity.

- **Deepens insights** – Allows for the combination of audit information and the analysis of industry or market data for new insights about the potential impact of events on the business.

Today's financial reporting environment is seeing an explosion of data and the rapid development of analytical tools to understand and effectively apply that data to decision making. We are inexorably moving into an era where sophisticated technological applications such as artificial intelligence will fundamentally transform how audits are conducted.

Cognitive technology is an important part of this changing landscape and represents a vital element of the capabilities KPMG is developing to advance audit quality, maintain relevance and foster innovation.

In the near future, unprecedented advances in computing technology will enhance our audit by making it possible to generate deeper analytical insights on range of financial and operational areas.



To learn more about how the use of advanced technology will affect how audits are conducted, read our report:
[Harnessing the power of cognitive technology to transform the audit.](#)

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