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# ***Data Driven Auditing***

*Data and Analytics in Assurance*

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# Megatrends: The Changing Business World



*Explosive population growth occurring in some areas against declines in others contributes. Between 2010 and 2050, the global number of people who are 100 years or older will have increased tenfold*



*Realignment of global economic and business activity is transitioning BRIC and other growth countries from centers of labor and production to consumption-oriented economies*



*The movement of populations out of suburbs and rural areas and into cities is changing how people live and work. By 2050, the urban population of the world is expected to increase by 72%*



*Scarcity of resources and the impact of climate change are of growing economic concern. Demand for energy is forecasted to increase by as much as 50% by 2030, and water withdrawals by 40%*

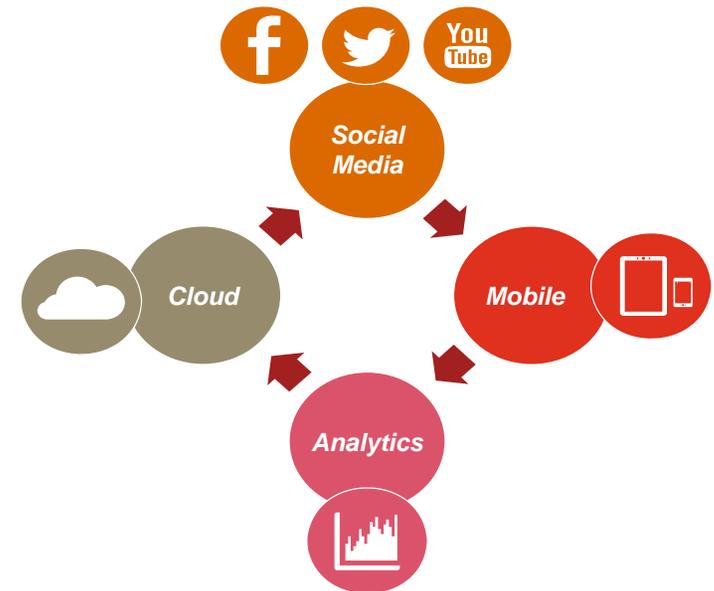


*The amount of information we have to manage is rapidly expanding. Data is generated from every action taken on every Internet-enabled device*

# Megatrends: Technological Breakthroughs

*90% of data in the world today is only 2 years old*

*80% of CEOs place data analysis as the second-most important strategic technology just behind mobile tech*



## Implications

- The combination of the internet, mobile devices, data analytics and cloud computing will continue to transform our world
- New competitors will emerge as technology and innovation create new competitive advantages and increase productivity across sectors and geographies
- The ability to gather and analyze data in real time may become a requirement for doing business, rather than a competitive advantage

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# ***Evolving to a Data Driven Audit***

## **Better experience for clients**

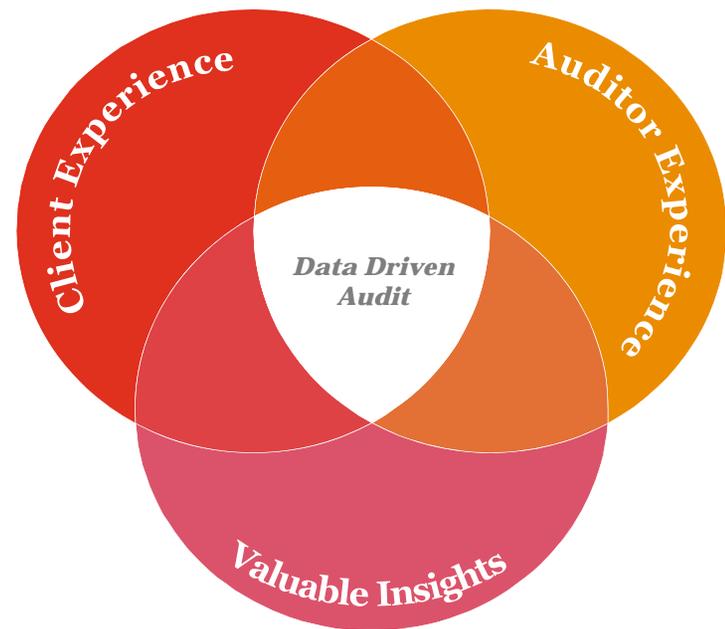
Save time through reduced effort to pull supporting documentation due to easy accessible data

## **Better experience for auditors**

Shift substantive testing and controls testing towards automated data discovery and validation

## **More valuable insights**

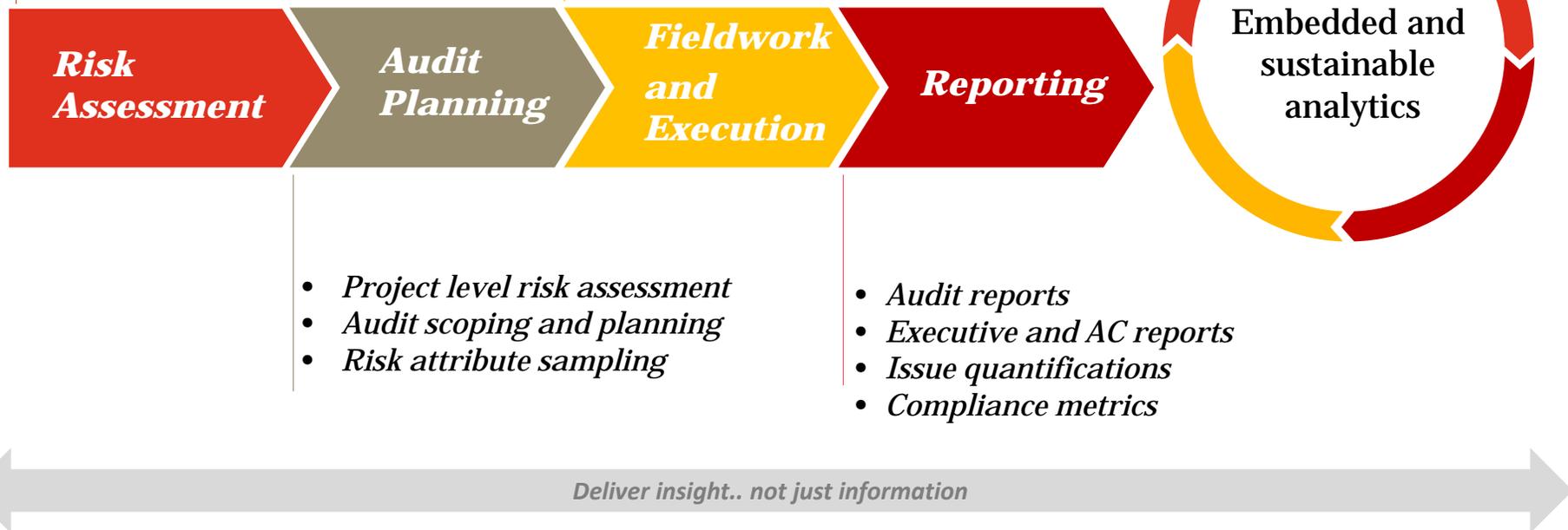
Increase value of the audit by providing information that can help companies refine processes, improve efficiency and anticipate future problems



# The Audit Analytics Opportunity

- *Enterprise risk management*
- *Annual risk assessment*
- *Risk monitoring*
- *Business unit or site level profiling*

- *Multi-unit auditing*
- *Data-driven testing*
- *100% coverage*
- *Process / control validation (end to end testing)*
- *Root cause identification*



- *Project level risk assessment*
- *Audit scoping and planning*
- *Risk attribute sampling*

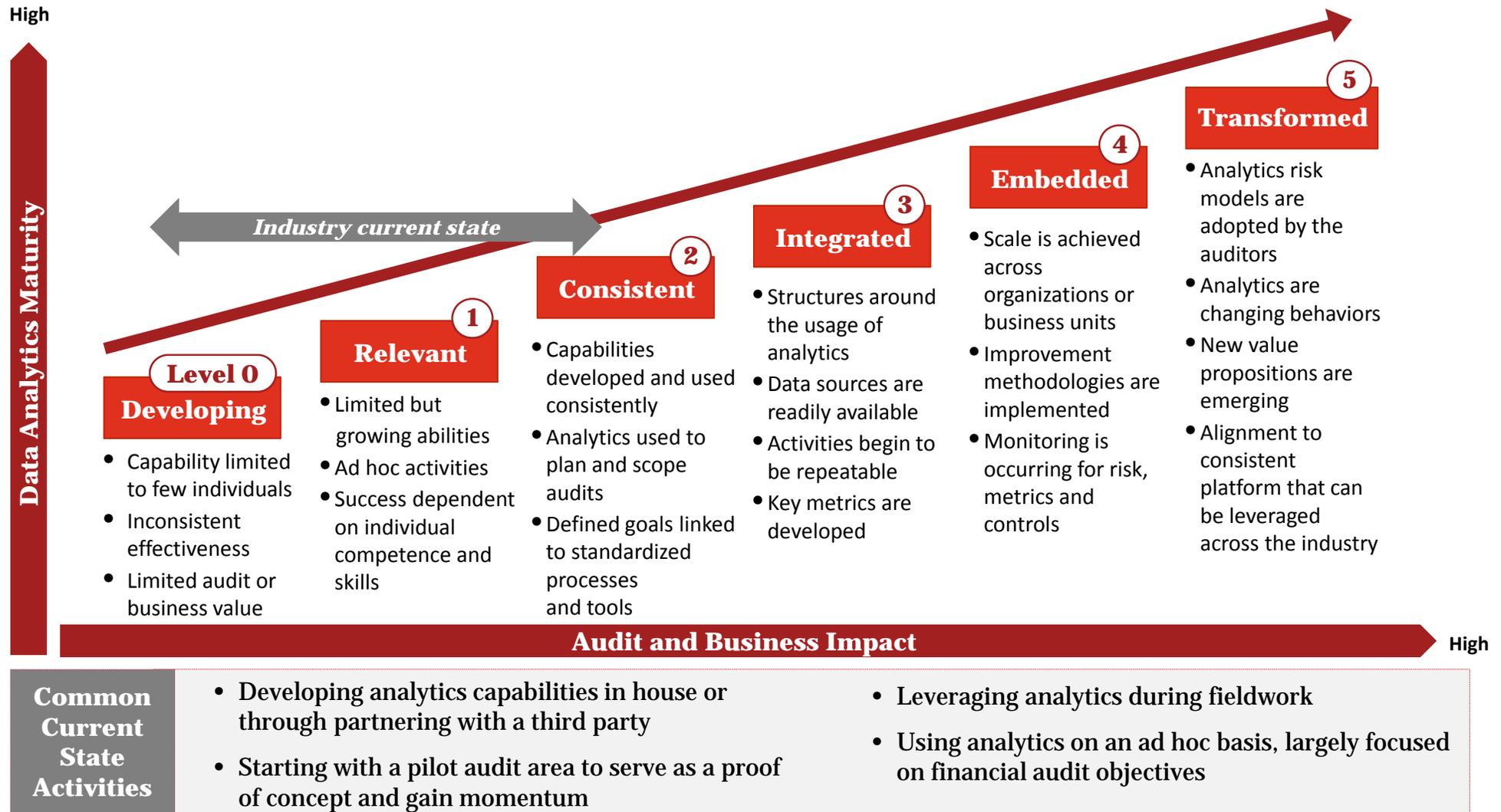
- *Audit reports*
- *Executive and AC reports*
- *Issue quantifications*
- *Compliance metrics*

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# ***Data Analytics Example – Utility Industry***

Live Demo

# Maturity Scale for Audit Analytics



# ***Barriers to Success***

## ***Avoid common pitfalls by implementing a strategy***

- Failure to modify the audit methodology such that analytics are seen as just a bolt on to the existing audit procedures
- Incorporating analytics in fieldwork only and not using data to inform audit areas
- Structuring the analytics team in a silo, separate from the core audit team
- Lack of consideration given to the softer side of an analytics strategy, including people management and organizational change management
- Embarking on a strategy that does not leverage connection points within the organization (IT, compliance, operations, etc.)



# ***Recommendations for Evolving Skill Sets in Auditing***

## **Current core skills**

Understanding of:

- Fundamentals of accounting, including financial accounting, managerial accounting, taxation, and financial reporting systems
- Generally accepted accounting principles, policies, procedures, and auditing standards
- How to tie accounting needs back to regulatory needs

## **New skills likely to be needed**

Knowledge on how to:

- Research and identify anomalies and risk factors in underlying data
- Mine new sources of data and use insights to bring new value to the business
- Use exploratory multivariate statistics, inferential statistics, visualization tools, optimization methods, machine learning, and predictive analysis tools
- Process-mine using new data analysis techniques and algorithms, to isolate and investigate specific processes that might have led to changes to the data/accounting ledgers

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## ***Questions and Contacts***

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