Data Science Driving Cultural Change

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ILLUMINATION WORKS

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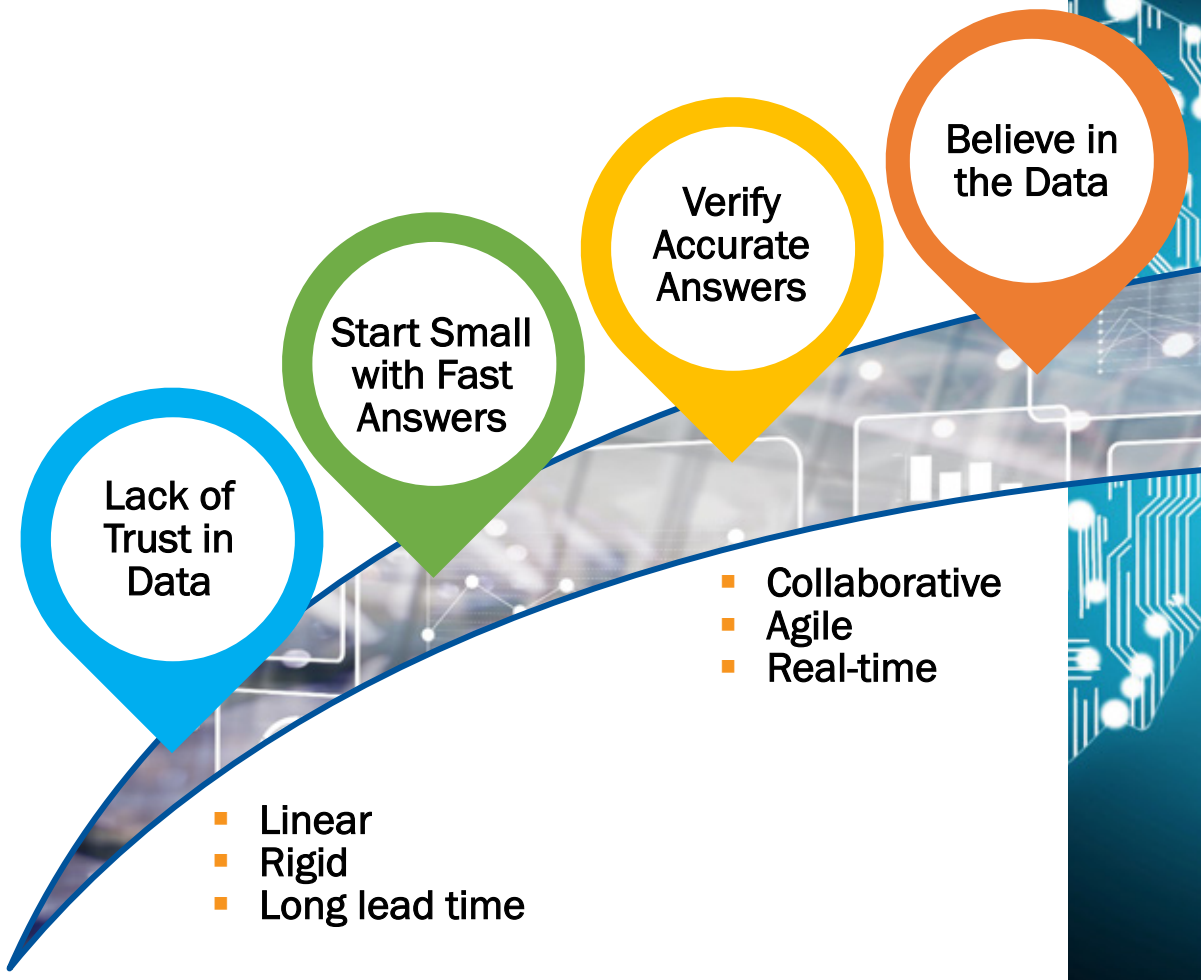
Old Ways Don't Open New Doors

Requirements-Driven to Real-Time Intelligence

The Culture Curve

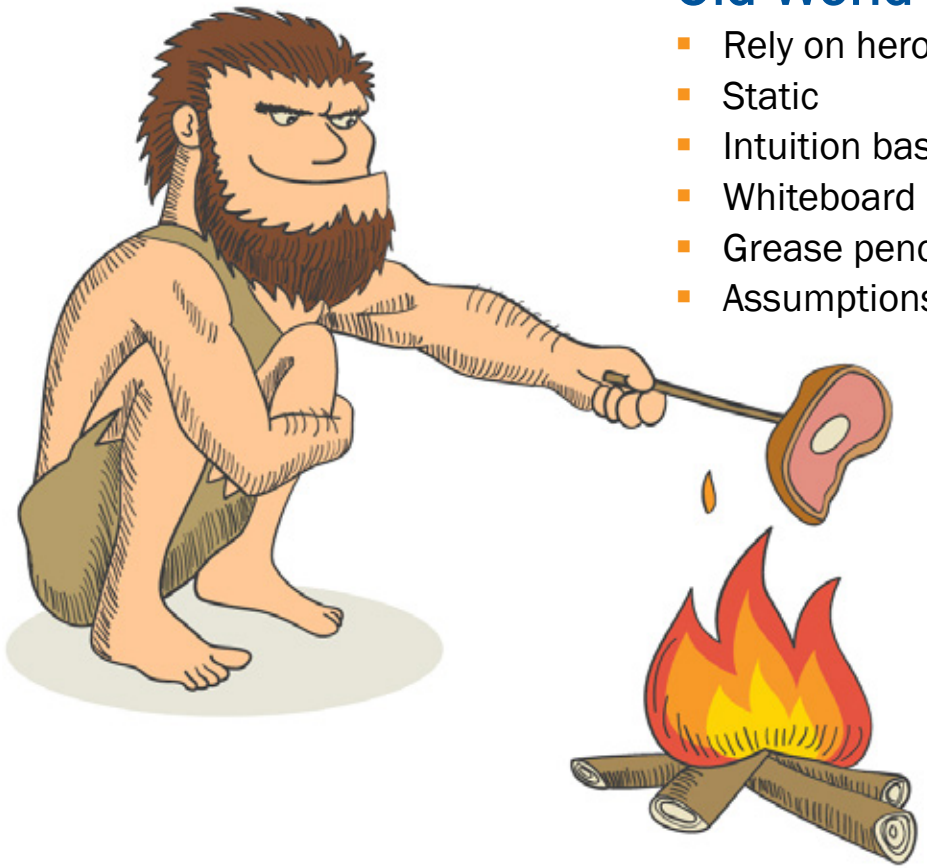


Data-Driven Culture

Example: Autonomous / Self-Driving Cars

DATA is the New Bacon

How do we make bacon?



Old World

- Rely on heroes
- Static
- Intuition based
- Whiteboard
- Grease pencil
- Assumptions

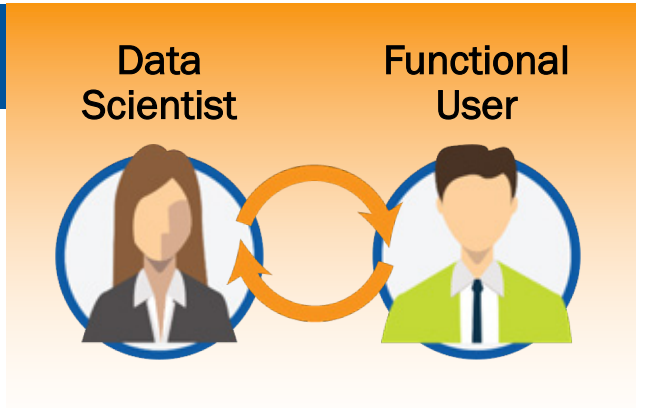
New World

- Information fusion
- Text analytics
- Image processing
- Sensors
- Data trust
- Data integration

Need for Speed to Trusted Insights

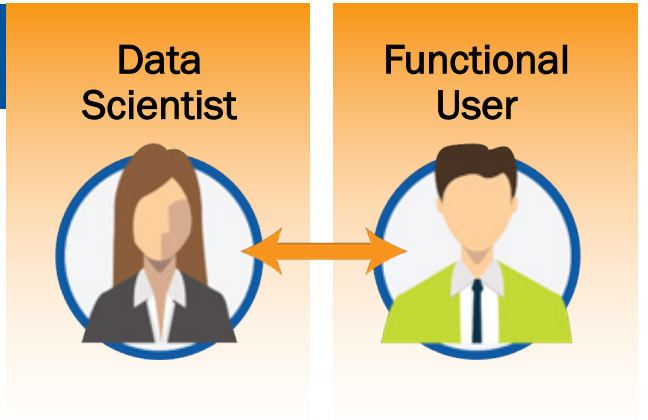
Paired Analytics

Dynamic collaboration where the data scientists sit side-by-side with the functional experts who are asking the questions, coding together for real-time Q&A



Digital Engagement

Timely, interactive collaboration where the functional experts and data scientists, not necessarily sitting together, have an open two-way flow of information for fast Q&A



The challenges are speed and gaining trust

Paired Analytics — A New Level of Collaboration

CASE STUDY

Made large volumes of data accessible

Teamed data scientists w/business users

Began asking leading questions

Challenge
- Slow speed to insight
- Large data volume

Results
- Faster speed to insight
- Increased trust of data

Culture Change

A New Level of Collaboration

Over time business users began asking leading questions, and embracing what the data told them, not their assumptions

Digital Engagement — Shifting Culture Over Time

CASE STUDY

Bi-weekly demos

Agile development processes

Functional and analyst collaboration

Challenge
- Waterfall-based processes
- Disconnected requirements
- Long lead time to capability

Results
- Real-time requirements
- Faster delivery

Culture Change

Shifting Culture Over Time

Trust in expediting the process takes time and multiple successes of faster mission results and Q&A

Digital Engagement — Leads to New Questions

CASE STUDY

Added data scientist on site

Ability to answer question of the day

Analyzing data to answer the unknown

Challenge

- Required answers faster than development timeline
- Massive amounts of data

Results

- New questions
- Data trust

Culture Change

More Answers Drive More Questions

Moved from canned reports to value-add real-time analytics

Digital Engagement — A Modernized Approach

CASE STUDY

Machine learning approach to gain insights

Rapid development of predictive algorithms

Expanded solution usage for additional areas

Challenge
- Human-driven decisions
- Limited validation/cross-check

Results
- Bi-weekly releases
- 35,000 dictations
- Sub-second run margins

Culture Change

A Modernized Approach

Doctors began trusting the recommendations and providing higher quality of care

Key Takeaways

Speed & Trust

Business units and functional experts need to feel empowered to get results quickly

This drives the difference in engagement that leads to cultural change

There is a Better Way