Making Data Work

Florida Department of Transportation

October 24, 2014

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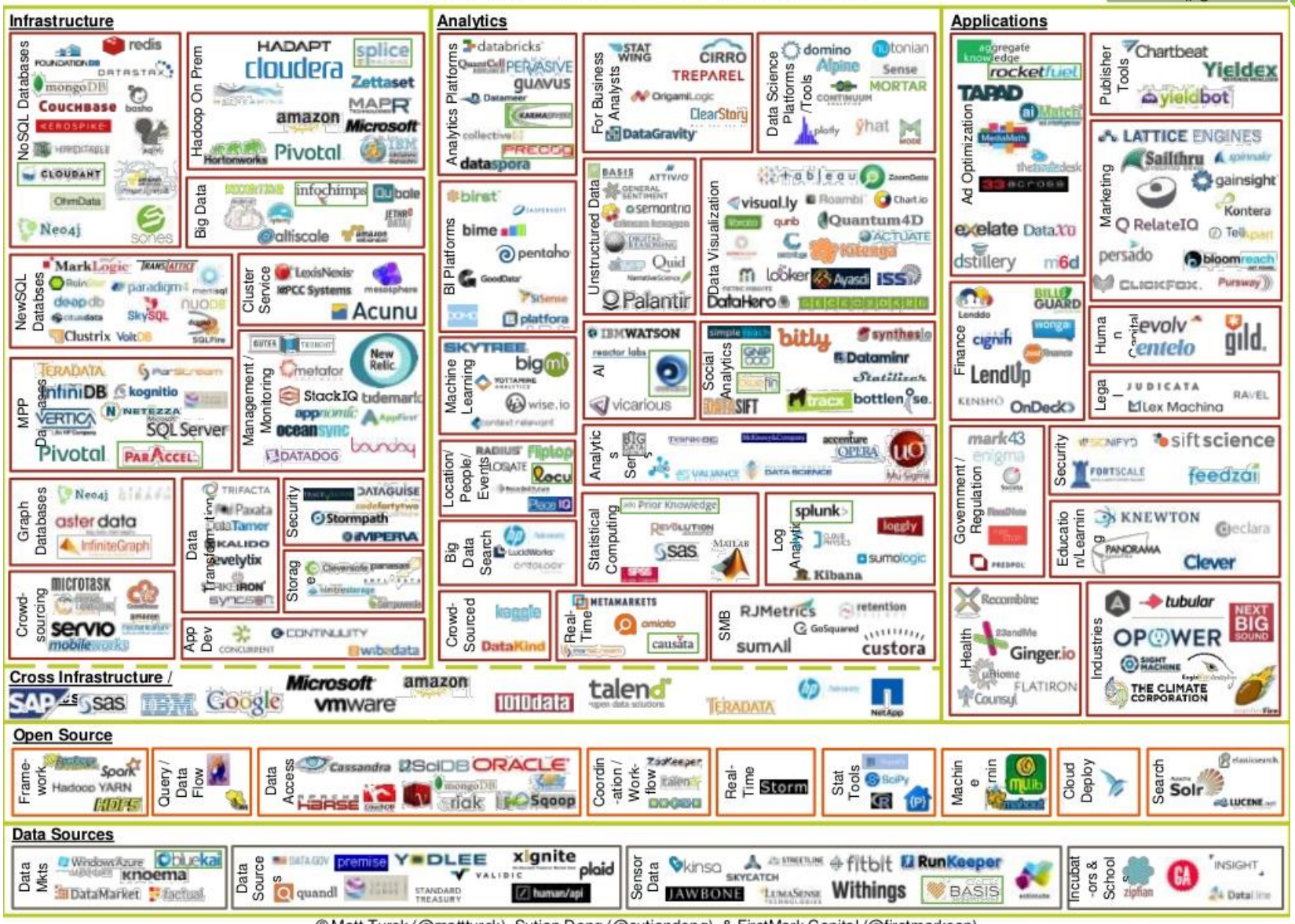
BIG DATA LANDSCAPE, VERSION 3.0

Exited: Acquisition or IPO



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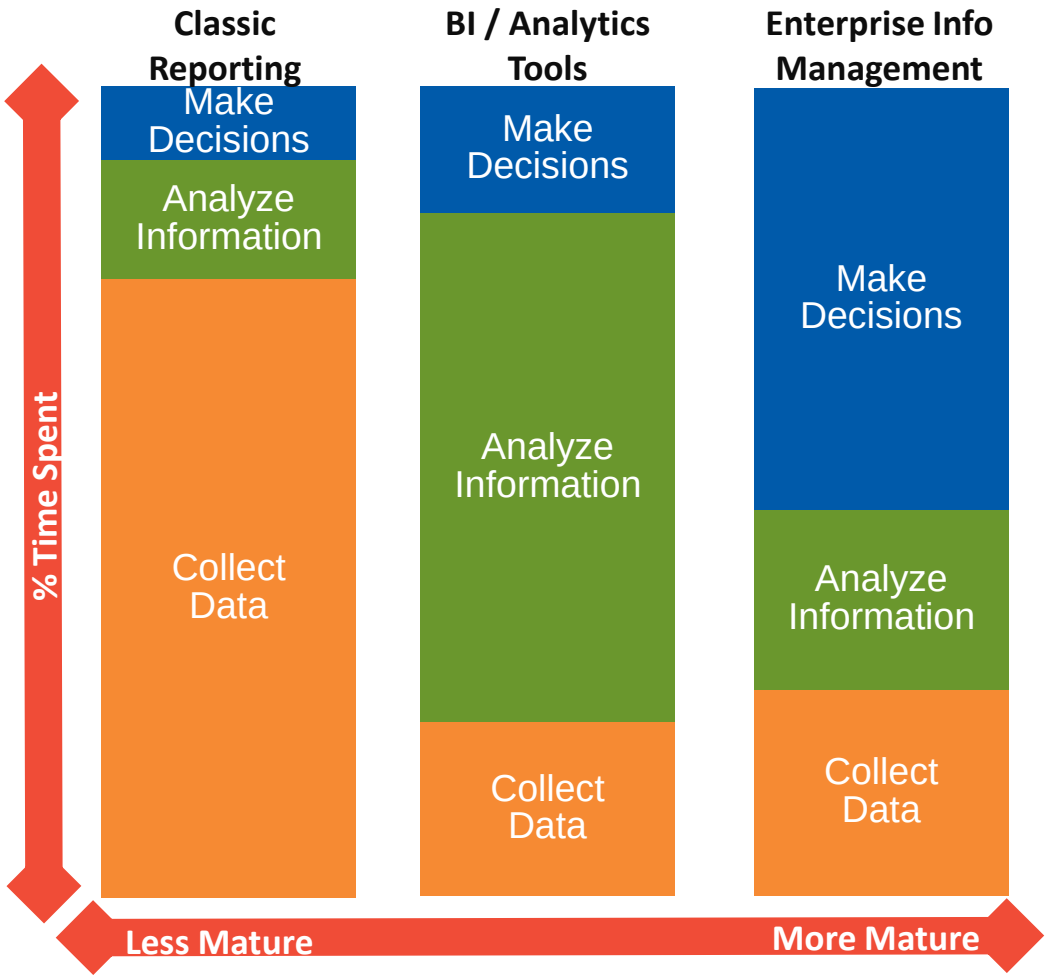
Data, Data Everywhere….

- Challenges in organizing this vast amount of data into something actionable:
  - Where to find?
  - How to store?
  - Quality: completeness, uniqueness, validity, timeliness, accuracy, consistency, etc.
  - Governance: use, single version of the truth, legal/contractual, etc.
  - Data security and privacy
- How do I manage data as a *strategic* asset?
  - Value of the data depends on the effectiveness in how they are managed
  - Not taking a concerted, strategic approach results in “shadow data organizations” and “shadow analytics organizations”

Progress toward a smarter, more agile organization

The primary objectives of business intelligence and analytics are:

- *Spend less time analyzing and more time making decisions that grow the business*
- *Inform the individuals, at the right level of the organization, to make better, faster, fact-based decisions*



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What to look for…

Inconsistent reporting of information across an organization: Are there different results for similar data across functions, LOBs, or processes (“multiple versions of the truth”)?

Poor data quality: Does information accurately support business expectations? Is the information being reported believable?

Lack of data governance: The actual cause of many enterprise data problems. Is there an engagement of cross-functional decision makers across an organization?

Lack of standards: Are there standard definitions? Is there one single “golden” source for the information?

Lack of master data management (MDM): Is critical data being defined and managed across an enterprise?

Lack of alignment: Is there alignment of people, process, and/or information to business strategy and expectations?

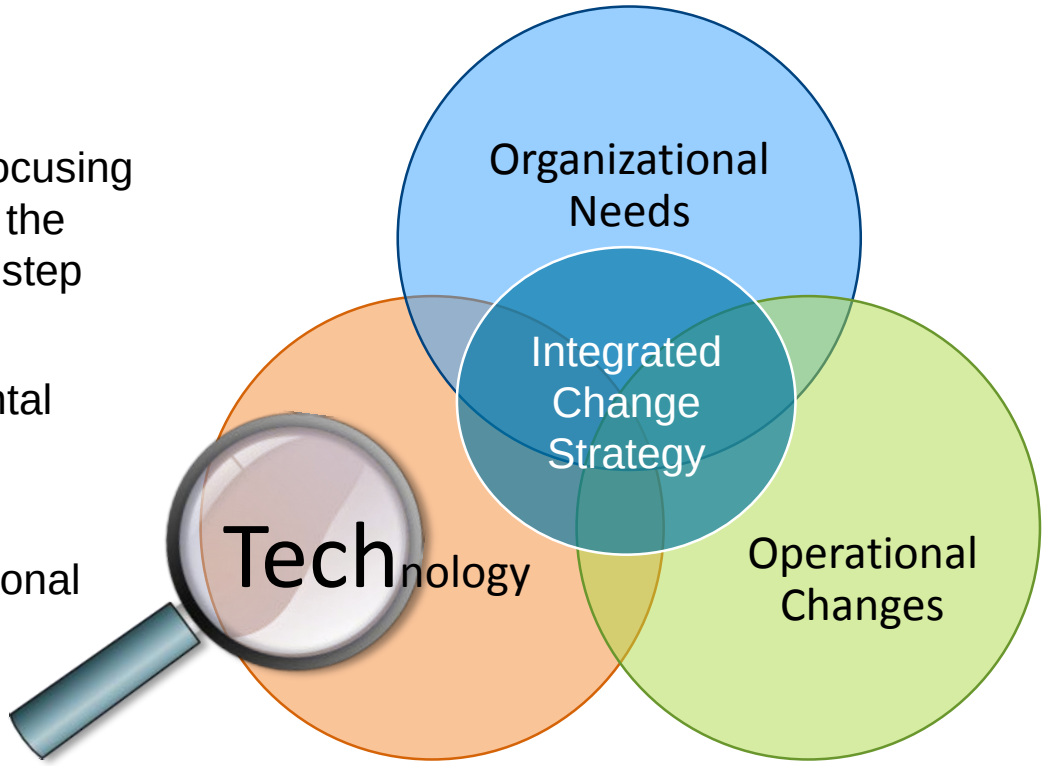
Ineffective delivery of information (cost, timeliness, accuracy): Are people, process, and/or technology in alignment with business expectations?

Multiple Sources of Data: Is there sufficient data integration to allow for effective management of the measures?

The More Things Change…

The more things change…

- Many make the mistake of focusing on the technology – chasing the latest and always being one step behind required changes.
- Key is to separate fundamental needs from the enabling technologies.
- And to make specific operational changes to deliver on the organizational mission



Without the appropriate open and flexible architectures, methodologies and functional strategies, organizations cannot maintain the effectiveness to promote cost control, quality and continuous improvement.

The response is straightforward…

In order to succeed, organizations must improve the way they translate their data and information into operational behaviors that deliver on rapidly shifting service delivery models.

Evolution in Operationalizing Data & Analytics

- ✓ Rise of Strategic & Tactical Needs

- ✓ New Functional Need for Enterprise Data Owner
- ✓ Operationalization of Analytics =
  - ➢ Communication of compelling vision and reason for change
  - ➢ Buy-in among the end user is critical
  - ➢ Requires establishment of program to ensure right level of input and engagement throughout the analytics lifecycle
  - ➢ Basic conceptual competency needed

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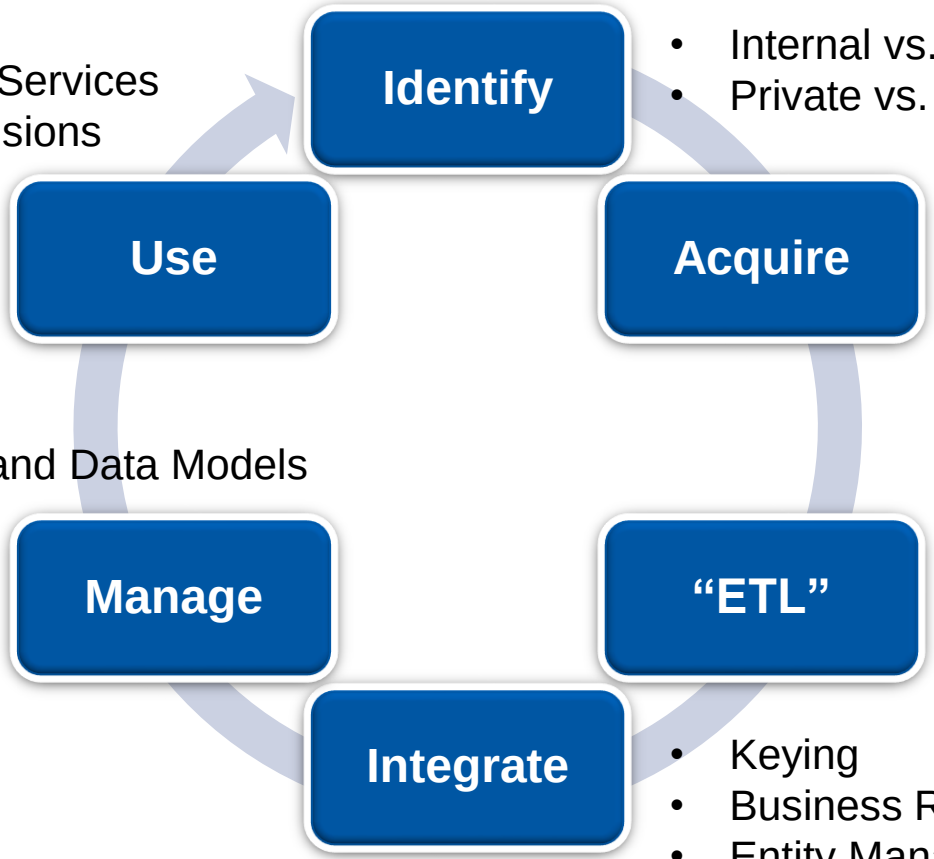
The Enterprise Data Supply Chain

- Proof of Value
- Products and Services
- Business Decisions
- ROI!



- Internal vs. External Sources
- Private vs. Public Sources

- Due Diligence
- Licensing

- Reformat
- Edit
- Validation
- Load

- Keying
- Business Rules
- Entity Management

- Data Architecture and Data Models
- Compliance
- Quality Monitoring
- Metrics

How do we separate the technology questions from the business questions?

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Distinct and Parallel Key Functions for Enterprise Consistency

Data Owner

Enterprise Business Advocate for Data

- Responsible for the data content
- Establish data governance
- Ensure data compliance and security
- Establish data usage guidelines
- Establish data strategy
- Negotiate third-party data relationships
- Maintain data inventory
- Track ROI of all data assets
- Set business rules for data management and storage
- Establish and monitor data quality

Technology Owner

Enterprise Technology Advocate for Data

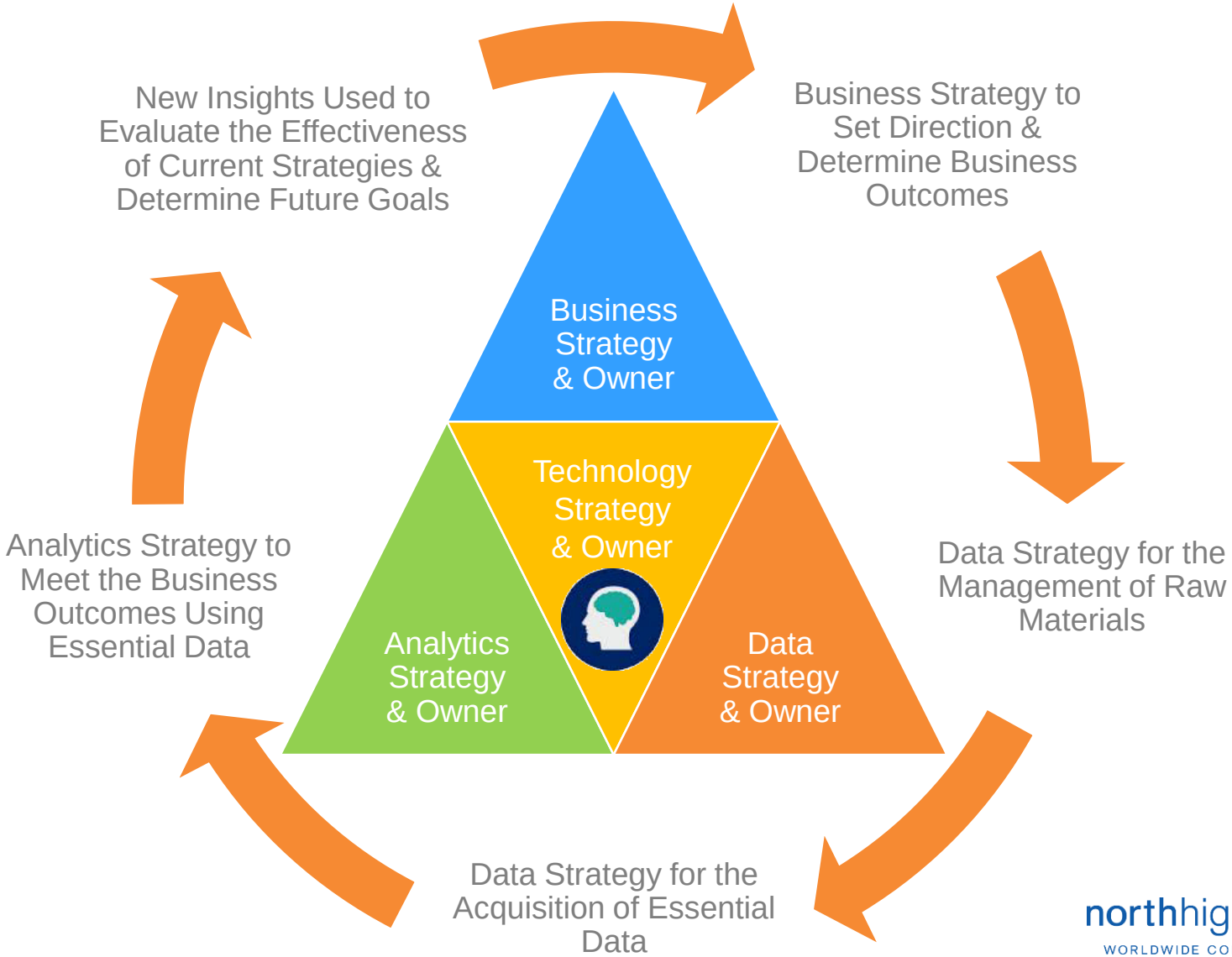
- Responsible for the environment housing, transmitting, and displaying the data
- Establish technology strategy
- Ensure technology compliance and security
- Establish technology usage guidelines
- Negotiate third-party technology relationships
- Determine how to best house and process data based on business requirements
- Determine how to best provide the analytical environment based on business requirements

Analytics Owner

Enterprise Business Advocate for Analytics

- Downstream consumer of data
- Drives how to leverage analytics throughout the business
- Establish analytics strategy
- Establish analytics governance
- Ensure analytical compliance
- Establish and maintain standards for analytics quality, tools, and methodologies
- Maximize analytics leverage within the enterprise
- Negotiate third-party analytics licenses and engagements

The strategies of the key functional areas must be in sync for successful operationalization



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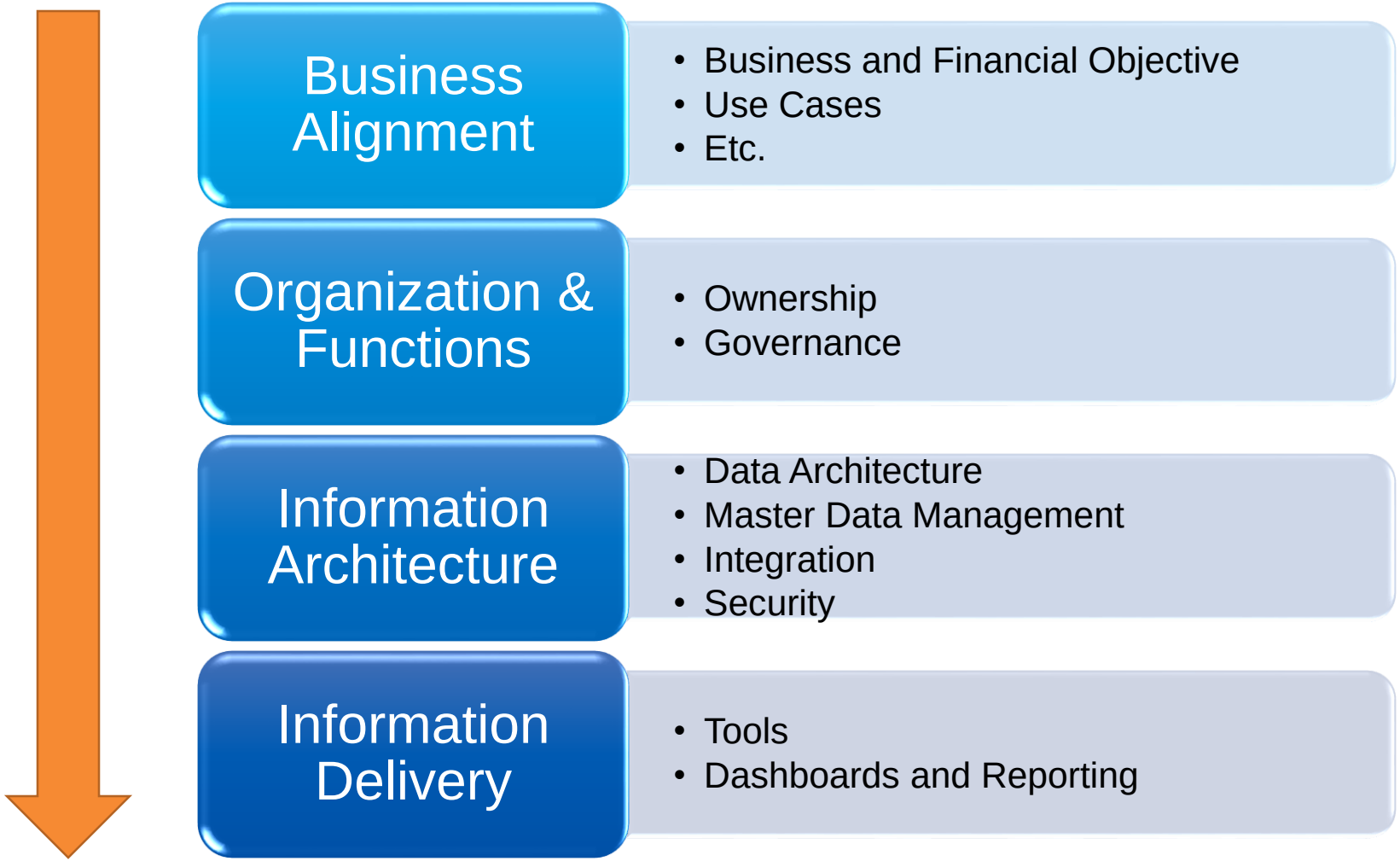
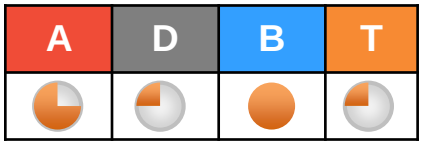
Components of Information Management Strategy

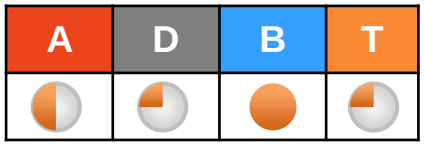


Right People, Right Level of Involvement throughout the Analytics Lifecycle



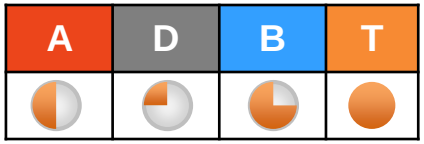
Observe & Measure

- Measure impact
- Adjust, as needed/ appropriate



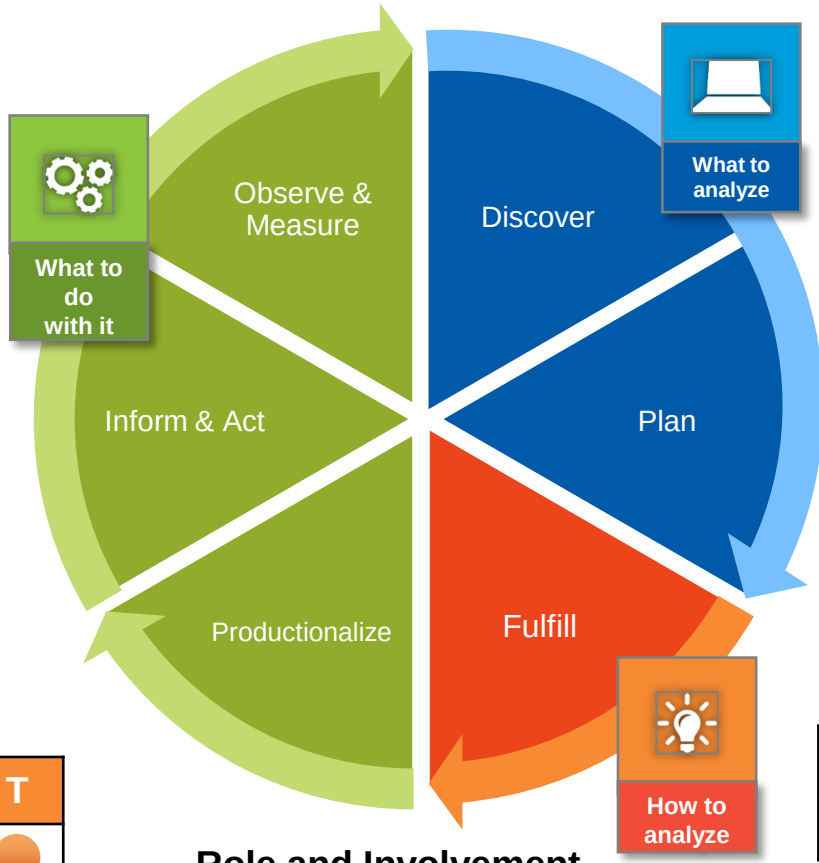
Inform & Act

- Apply insights
- Change situation, strategy, and/or behavior



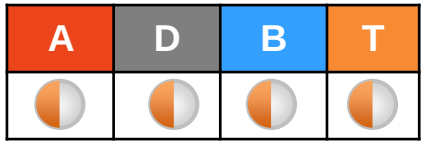
Productionalize

- Make the solution available
- Form action plan



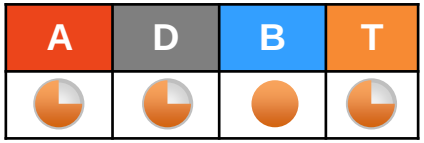
Role and Involvement

A	Analytics
D	Data
B	Business
T	Technology



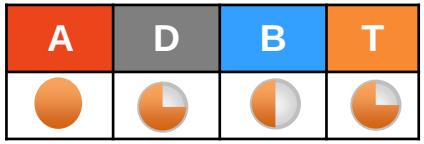
Discover

- Seek ideas
- Obtain initial insights
- Test and validate ideas



Plan

- Finalize requirements
- Finalize solution design
- Plan logistics



Fulfill

- *Develop* the solution with best-in-class skills and methodologies

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How do we make this happen…?

SHAPE

Organization Vision, Current and Future State

What to analyze

✓ ***Discover & Plan***

Information Strategy

- Business Strategy for Data & Analytics
- BI Assessment
- BI Business Value Assessment
- BI Organizational Alignment
- Technology Evaluation, Selection, Architecture

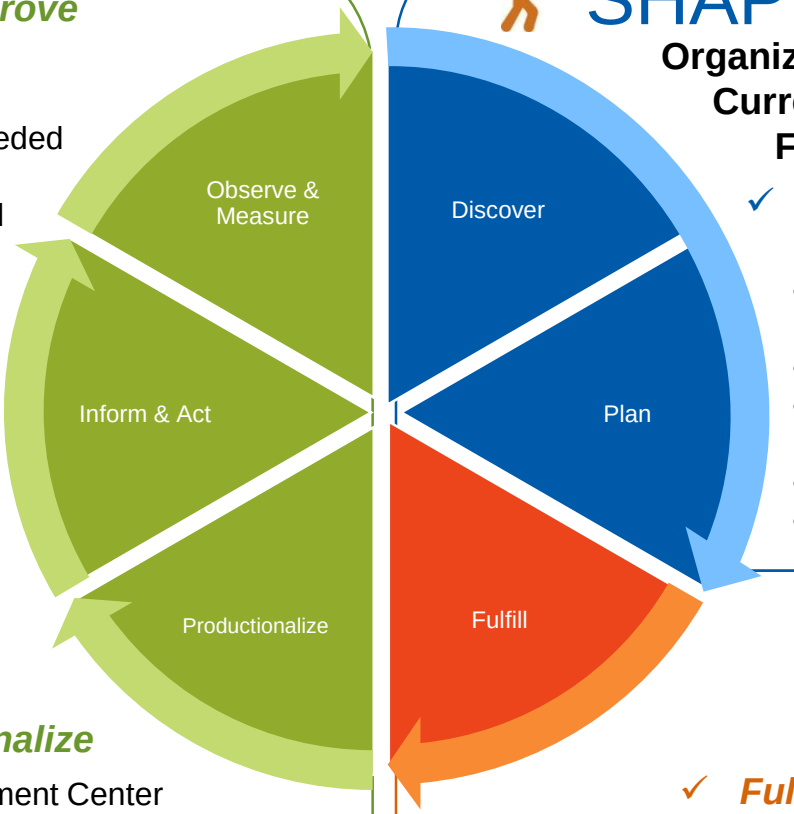
BUILD

Organizational Design & Governance

✓ ***Fulfil & Use***

- Discovery Services Analytics
- Statistical Modeling
- Visual Analytics
- Reporting and Analytical Dashboards/Scorecards

How to analyze



RUN

Workforce Transition; Building Capability & Sustaining Change

✓ ***Implement & Improve***

- Review solution performance
- Re-align where needed
- Plan for future enhancements and continuous improvement

✓ ***Productionalize***

- Development Center
- Data Integration
- Data Warehouse/ Data Mart
- Master Data Management
- Data Quality

What to do with it

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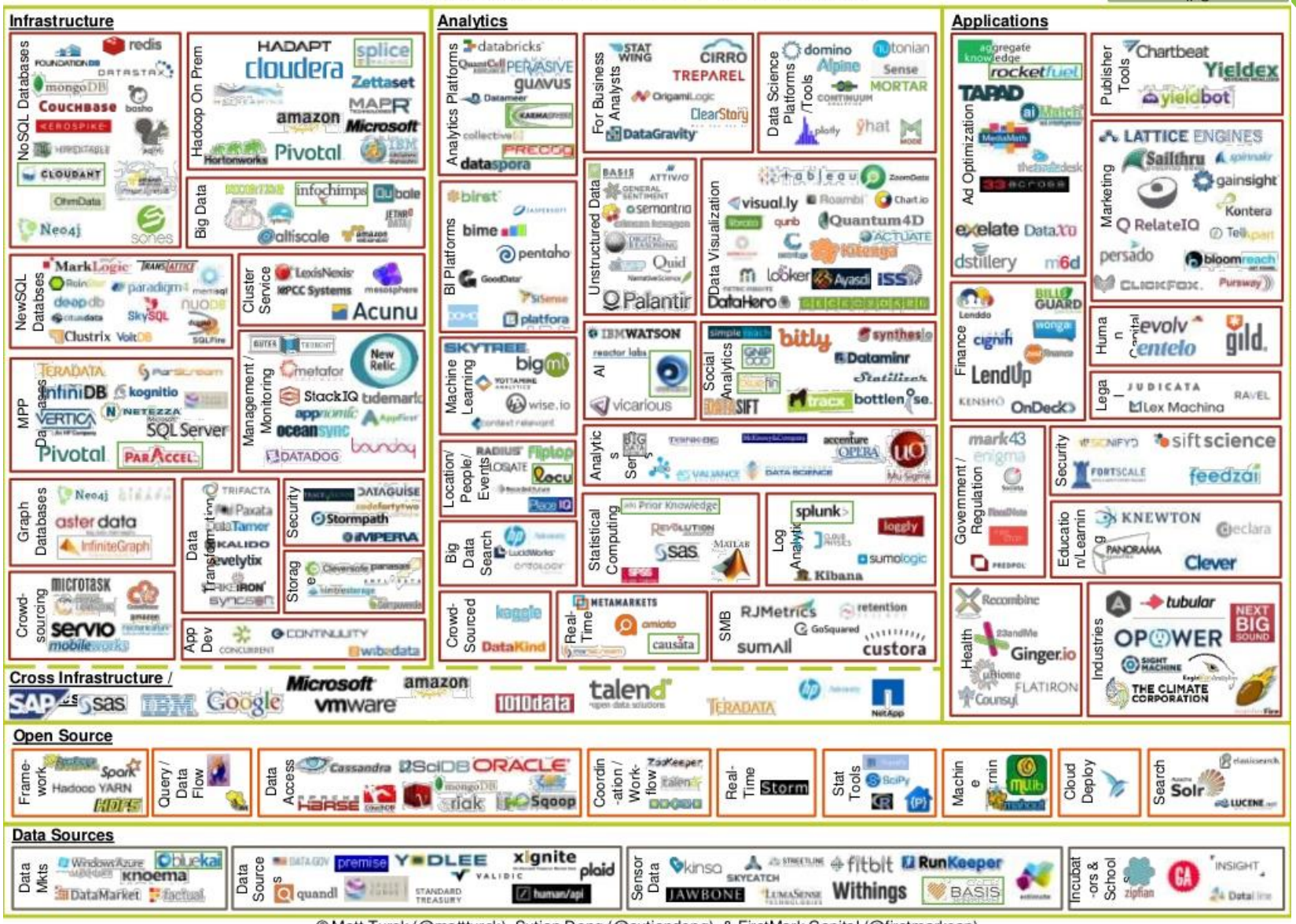

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Why all the fuss?

- **If your organizational behaviors are not influenced by the insights and findings you obtained from transforming the data collected, what have you really done?**
- Information isn't anything without the people. Please don't forget the people.
- It takes a deliberate and concerted approach to make data work.
- The strategies of the key functional areas must be in sync for successful operationalization.
- Right people and right level of involvement throughout the lifecycles is critical.
- It is a simple 3-phase process: Shape, Build, and Run (and repeat).