Building a Data Strategy: Practical Steps for Aligning with Business Goals

Donna Burbank
Global Data Strategy, Ltd.
February 23, 2023
Unlocking Trapped Value with Data

The meeting place for companies, technologies and data

Dan Eline, Senior Director of Platform Planning & Solutions
7 Technologies

Source: World Economic Forum, with Accenture, "Digital Transformation Initiative"
Data is Growing

Source: Seagate, "The Digitization of the World – From Edge to Core"; Digital Realty Market Intelligence, Data Gravity Index 1.5
End User Data Priorities

7,295 Participants
13 Questions
9 Industries
23 Countries
$100M - $1B+

Source: Global Data Insights Survey, 2022 Report, Digital Realty 2022; Digital Realty Market Intelligence
Key Takeaways

- **Data-First Strategy Wins**: 76% plan to use data to improve customer experience and build new digital products.
- **Data Distribution is Increasing**: 72% plan to add new business locations in the next two years.
- **Data is Localizing**: 78% maintain local copies of customer data for business and compliance purposes.
- **Data Latency Matters**: 77% identified data latency specific performance requirements.
- **Data Needs Global Meeting Place**: 84% need global coverage and secure data exchange from a single DC provider.

Source: Global Data Insights Survey, 2022 Report, Digital Realty 2022; Digital Realty Market Intelligence
Telemetry Via Data Gravity Index

Source: Digital Realty Market Intelligence, Data Gravity Index 1.5
The Meeting Place

Platform DIGITAL™

APPLICATIONS, PLATFORMS & CAPACITY

IN THE CLOUD

CONNECTED DATA COMMUNITIES

CENTERS OF DATA
MULTI-TENANT DATA CENTERS

ENTERPRISES & HYBRID IT PROVIDERS

REWIRE THE NETWORK
OPTIMIZE DATA EXCHANGE
IMPLEMENT HYBRID CONTROLS

BUILD HYBRID NETWORK OFFERINGS
ADD NEW MANAGED SERVICES
ADD POINTS OF PRESENCE

CONNECTIVITY PROVIDERS

AT THE EDGE

USERS, DEVICES, THINGS

CLOUD & CONTENT PROVIDERS

ADD NEW MARKETS
EVOLVE ON-RAMPS
BUILD HYBRID OFFERINGS

Source: Digital Realty Market Intelligence, Data Gravity Index 1.5

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Thank you

Resources
- Explore PlatformDIGITAL
- Visit the Data Gravity Insights Hub
- Download the Global Data Insights Survey
Data Observability

Unlocking the Power of Your Data

Shane Murray
Shane Murray
Field CTO @ Monte Carlo (2022–)
SVP Data & Insights @ The New York Times (2013–2021)

$236m in funding by backers of the world’s best enterprise companies,
including Accel, GGV, Redpoint, ICONIQ, and IVP

Creator of the Data Observability category
Why is data downtime a problem?

- **Can’t see downstream**
  - Data producers (source systems)

- **Can’t predict all the ways data will break**
  - Data platform (warehouses, lakes)

- **Can’t know when data is bad or who to ask for help**
  - Data consumers (BI tools, data products)
How we started:
Manual tests were the only means to ensuring data quality

Typical distribution of data incidents

Testing

- Column must have 0% nulls
- Transaction price must be >$0
- ...and other predictable anomalies

Detected by downstream data consumers

- 90%
- 10%

Why testing falls short

- Can’t test what you can’t predict
- Can’t see downstream
- Direct queries become costly
- Data and stack are constantly changing
- Doesn’t scale
Consequences of data downtime range from trivial to existential

~70
high severity events each year per every 1k tables

30-50%
data engineering time spent on fire drills

12-27%
avg. annual revenue lost for companies resulting from poor data quality

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1. Benchmark data based on Monte Carlo customer production deployments
2. Monte Carlo market research and customer-reported benchmarks
3. Experian Data Quality; MC research via Wakefield Research Survey
Data downtime looks similar at all companies

- Is this data up-to-date?
- Why does this data size look off?
- Isn’t this value suspiciously high?
- Why are there so many nulls?
- Why do we have duplicate IDs?
- What reports will I break with this schema update?
- Why are there 0s on tiles that usually show 100s?

DATA OBSERVABILITY PILLARS

- Freshness
- Volume
- Quality
- Schema
- Lineage
What is **Data Observability**?

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**Detect**
- ML-powered anomaly detection
- Rule-based detection
- Targeted alerts to impacted owners & downstream users

**Resolve**
- Automated field-level lineage
- Impact radius assessment
- Code, data, and operational diagnostics

**Prevent**
- Auto-generated and on-demand insights
- Schema change notifications
- Automated circuit breakers

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**DATA OBSERVABILITY PILLARS**

- Freshness
- Volume
- Quality
- Schema
- Lineage
Observability equips your team with automated monitoring across **100% of production tables and critical fields**.

1. **Freshness, volume & schema monitoring** on all production tables
2. **Data quality monitoring** for critical fields
   - % null, median, p20-p80, and 20+ metrics
3. **Custom rules & tests** for critical tables & fields
Triage, find root cause, and manage incident workflows

Automated table- & field-level lineage

Triage incidents

Manage workflows

Find root cause
O’Reilly’s
Data Quality Fundamentals
Learn what it takes to build more reliable data pipelines at scale.

Thank you

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Donna Burbank

Donna is a recognised industry expert in data management with over 25 years of experience in data strategy, data governance, data modeling, metadata management, and enterprise architecture. Her background is multi-faceted across consulting, product development, product management, brand strategy, marketing, and business leadership.

She is currently the Managing Director at Global Data Strategy, Ltd., an international data management consulting company that specializes in the alignment of business drivers with data-centric technology.

In past roles, she has served in key brand strategy and product management roles at CA Technologies and Embarcadero Technologies for several of the leading data management products in the market.

As an active contributor to the data management community, she is a long time DAMA International member, Past President and Advisor to the DAMA Rocky Mountain chapter, and was awarded the Excellence in Data Management Award from DAMA International.

She has worked with dozens of Fortune 500 companies worldwide in the Americas, Europe, Asia, and Africa and speaks regularly at industry conferences. She has co-authored several books and is a regular contributor to industry publications. She can be reached at donna.burbank@globaldatastrategy.com

Donna is based in Boulder, Colorado, US.
DATAVERSITY Data Architecture Strategies

This Year’s Lineup

• January  Emerging Trends in Data Architecture – What’s the Next Big Thing?
• **February**  Building a Data Strategy - Practical Steps for Aligning with Business Goals
• March  Data Mesh or Data Mess? Separating the Reality from the Hype
• April  Master Data Management - Aligning Data, Process, and Governance
• May  How do Data Governance & Data Architecture Support Each Other?
• June  Why You Need Data Management – Getting Executive Buy-In
• July  Artificial Intelligence and Machine Learning – Building the Right Architectural Foundation
• August  Data Quality Best Practices (with Nigel Turner)
• September  Best Practices in Metadata Management
• October  Designing Data for Business Intelligence & Analytics – Where the Star Schema Fits in a Modern Data Architecture
• December  Enterprise Architecture vs. Data Architecture
What We’ll Cover Today

• Developing a Data Strategy for your organization can seem like a daunting task – but it’s worth the effort.

• **Getting your Data Strategy right can provide significant value, as data drives many of the key initiatives in today’s marketplace**, from digital transformation to marketing, customer centricity, population health, and more.

• This webinar will help demystify Data Strategy and its relationship to Data Architecture and will provide concrete, practical ways to get started.
The Rise of the Data-Driven Business

Data, more than ever, is seen as a key business asset and strategic differentiator.
The Role of the Data Professional in the Data-Driven Business

• In the current environment of data-driven business, Data Professionals have an opportunity to have a “seat at the table”
  • Finding new opportunities to leverage data for business benefit
  • Creating efficiencies & business process optimization
  • Integrating data from disparate sources for new business insights
  • Supporting organizational change
What is a Data Strategy?
Strategy vs. Management

**Strategy:**
1. the art of devising or employing plans or stratagems toward a goal
2. an adaptation or complex of adaptations (as of behavior, metabolism, or structure) that serves or appears to serve an important function in achieving evolutionary success
3. the science and art of military command exercised to meet the enemy in combat under advantageous conditions

**Management:**
1. judicious use of means to accomplish an end
2. the act or art of managing: the conducting or supervising of something (such as a business)

- Source Merriam Webster
But What is “It”, Really?

• Many people are overwhelmed with the concept of building a Data Strategy – it can seem like a massive and overarching task.

• On a very tactical level, many wonder what format it should be in – Word Document, PowerPoint presentation, Interpretive Dance? 😊

• While many formats can be effective, a visual presentation often has the most impact. Key sections of the strategy should include:
  • Business Alignment – case for change and value proposition
  • Current State Analysis
  • Future State Recommendations
  • Roadmap and Next Steps
  • Projected ROI and Benefit
“For most of the history of business, the world’s leading companies have been industrially-focused...

...But today’s business reality is very different. We live in a world of bytes – and for the first time technology and commerce have collided in a way that makes data far more valuable than physical, tangible objects.

The best place to see this is in how the market values businesses.” ¹

¹ Oct 15, 2018, World Economic Forum, “These are the 8 major forces shaping the future of the global economy”
Digital Transformation is transforming business

**Business Optimization**
Becoming a Data-Driven Company

- Improving Efficiency
  - Reduce Redundancy
  - Eliminate Manual Effort
- Growing Revenue
  - Improved Marketing Campaigns
  - Data-driven Product Development
- Etc.

**Business Transformation**
Becoming a Data Company

- New Business Models
  - Data is the product
  - Monetization of information
- Digital Transformation
  - New Business Models
  - Data is the Business
- Etc.

How do we do what we do **better**?

How do we do something **different**?
Business & Data Strategy – the Interdependency

Business Strategy

Data Strategy

Informs & Guides

Informs & Guides
Aligning Business Strategy with Data Strategy

A Successful Data Strategy links Business Goals with Technology Solutions

Level 1
“Top-Down” alignment with business priorities

Level 2
Managing the people, process, policies & culture around data

Level 3
Leveraging data for strategic advantage

Level 4
Coordinating & integrating disparate data sources

Level 5
“Bottom-Up” management & inventory of data sources
“Offense” vs. “Defense”

Which style of data strategy fits your organization?

Offense

• Focused on Creating Opportunity
  • Improving Profitability
  • Increasing Revenue
  • Improving Customer Satisfaction
  • Competitive Advantage

Defense

• Focused on Reducing Risk
  • Compliance & Regulation
  • Avoiding Audits or Fines
  • Fraud Detection
  • Security & Privacy

On which end of the spectrum is your organization?
Look for Business Value “Levers”

Identify “Quick Wins”

• Identify areas that will derive the highest business value by addressing.
  • Is this supporting the new marketing campaign for a high visibility product launch?
  • Or are you “re-arranging the deck chairs on the Titanic” – i.e. focusing valuable time and effort no low-value activities

• As with any areas of the business that have value, it is helpful to build a model or architectural design around the key areas of business value.

Identify areas where data can be the fulcrum.
Making the Business Case

While Business Cases and ROI Calculations can be complex, they generally fall into 4 categories:

**Decreasing Costs**
- Wasted Labor costs due to manual efforts (Data cleansing, manual integration, etc.)
- Inefficient business processes for data management (Product Master Data process)
- Data quality cost avoidance (Wasted mailings sent to wrong address)

**Increasing Revenue**
- Price Optimization through Analytics
- Improved Marketing Campaigns through Quality Customer Data
- Data-Driven Recommendation Engines to enhance the sales cycle
- Better Grant writing through data-driven needs analysis

**Reducing Risk**
- Industry regulations (GDPR, HIPAA, BCBS 239, Spice, HIPAA, etc.)
- Product Traceability (Food lineage from farm/catch)
- Litigation due to Data Breach
- Health and Safety Audit

**Protecting Reputation**
- Customer Satisfaction
- Brand Trust
- Social Media Voice of Consumer
- Loyalty & ‘Stickiness’
Include the Risk of Doing Nothing

- There is significant cost and risk in the status quo.
- Doing nothing often has a higher cost than investing in data management.
- Make sure to include the “do nothing” option in your analysis.
Data Strategy Relies on Data Architecture & Governance

The top three initiatives in 2020 were Data Strategy, Data Architecture, and Data Governance. These results align with what we see from our conversations with clients and also indicates how closely the three are aligned in that a solid Data Strategy relies heavy on a solid Data Architecture and Data Governance framework.

A successful Data Strategy relies heavily on Data Architecture and Data Governance.

Based on research from a 2020 DATAVERSITY survey on “Trends in Data Management” by Donna Burbank and Michelle Knight.
Applying a Structured Data Governance Framework

A structured Data Governance Framework helps align business and IT for long-term success.
Mapping Organizational Capability

• Organizational Capability, Organizational Structure, and Roles are key to any Data Strategy

Aligning to Organizational Capabilities
e.g. From Plan to Production to Sales & Distribution

Designing Org Structures for Data-Centric Efforts
e.g. Aligning Data Governance to Individual Culture

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Which of the Following Data Sources or Platforms are you Using Today?

(Select all that apply)

- Relational on-premises database
- Spreadsheets
- Relational cloud-based database
- Packaged applications (e.g. ERP, CRM, etc.)
- Cloud object storage (including cloud data lakes)
- Legacy systems (e.g. Mainframe, COBOL, etc.)
- JSON
- Non-relational cloud-based database (document, key/value etc.)
- Media files (videos, photos, etc.)
- XML
Which of the Following Data Sources or Platforms are you planning on using in the next 1-2 years? (Select all that apply)

- Relational cloud-based database
- Cloud object storage (including cloud data lakes)
- Relational on-premises database
- Packaged applications (e.g. ERP, CRM, etc.)
- Don’t know
- Spreadsheets
- Non-relational cloud-based database (document, key/value...)
- Real-time/streaming database
- JSON
- Graph database
Building Trusted Data Sets

What does it take to build Trusted Data Sets?

- Successfully building trusted data sets requires a full range of data management disciplines.
A high-level data architecture provides the roadmap for data strategy & associated governance.

What data do we prioritize?  Where is this data used?  Where is this data stored?  What rules apply to this data?  What is the quality of the data?

This architecture provides a guide for small, targeted projects for business value to add additional detail.

What data best supports our Brokers?  What data best supports our Customers?  What data can we use to best Price our Policies?  What external data can we use for business advantage?
Building Blocks to an Effective Roadmap

**Why?**
What are the key business drivers?
Think both “Offense” & “Defense”

**Who?**
Who are the key stakeholders who will benefit?
Who are the Data Stewards who can be “discovered” in the organization?

**When?**
When will you roll this out?
What is the timing and cadence or actions and deliverables?
Are there other key initiatives it’s important to align with?

**How?**
How will you organize the Data Governance team(s)?
What Data Architecture will you put into place?

**What?**
What data needs to be managed?
Is this structured or unstructured?
Real-time or batch?
In which platforms or systems?
Why: Aligning with the Organizational Vision

• Key to any Data Strategy and Roadmap is aligning with the organization’s vision.

• Ways to find out more about the organization’s direction:
  • Annual Report
  • Company Updates
  • Team and Project Updates
  • News releases
  • Project plans

• Particularly for planning a roadmap, it is important to understand the company’s plans & trajectory
  • Is the organization cautious or aggressive in its future state?
  • Are there events that you should align your strategy around? e.g. Product Launch, Corporate Audit, School Semester start, etc.
Tell the Story – Explain Vision and the Journey to Get There

• Storytelling and vision-building is a key part to any strategy.
  • Build a sense of excitement
  • Provide a vision for what the future will look like
  • Show the journey and the effort required
  • Explain the steps to achieve the journey
  • Clarify everyone’s role in the journey – where do they fit, and what skills do they need?
Assess Organizational Maturity

• Perform a realistic maturity assessment of the organization’s data management capabilities:
  • Current state by discipline
  • Future Goals
  • Gaps that need to be filled

Global Data Strategy’s Data Management Maturity Assessment
Find Your “Quick Wins”

• It’s important to show early value for the Data Strategy effort
• ... and continue to deliver iterative value over time.
What is a “Quick Win” Project?

**Quick Win Project:** A “Quick Win” Project is a project that shows early value while at the same time building towards a long term goal. A successful “quick win”:

- Aligns with business objectives and **solves a high-value business problem** or
- Creates a **proof of concept for a high-value business opportunity**.
- Sets a **solid foundation for future efforts**
- Acts as a **“light bulb moment” for key stakeholders** to understand the value of data-centric activities.
A “Quick Win” is Not a “Quick Fix”

A Quick Win is not a sloppy, “quick fix” that will not scale for future use.

A Quick Win is well-planned first step to build a strong foundation for future efforts.
Priorities based on Benefits vs. Level of Difficulty can often be easily determined via a workshop activity using a Priority Grid.

- **High Benefits – Low Difficulty**
  - Address Validation

- **High Benefits – High Difficulty**
  - Business Process Change
  - Customer MDM

- **Low Benefits – Low Difficulty**
  - Manual Cleanup

- **Low Benefits – High Difficulty**
  - Legacy Migration
A Roadmap is Not a Laundry List

- A common error is to create a roadmap that reads like a “Laundry List” of activities
  - Create “themes” for each stage that tie into the vision
  - Call-out “quick wins” and value for each activity
  - Consider the WIIFM – what do key stakeholders care about?
Implementation Roadmap

Define Roadmap & Staffing for Executing the Strategy

- Define your roadmap with key activities timed to align with key business initiatives.
- Align with necessary staffing and training.

### Implementation Roadmap for Key Activities by Functional Area

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### Staffing & Training Recommendations

[Staffing & Training Recommendations diagram]

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‘Culture eats strategy for breakfast.’

Peter Drucker, Management Strategist & Consultant
Organizational Culture and Organizational Change Management

Organizational Culture:

“Organizational culture is the personality of the organization”. ¹

Organizational Change Management:

Organizational change refers to the actions in which a company or business alters a major component of its organization, such as its culture, the underlying technologies or infrastructure it uses to operate, or its internal processes.

Organizational change management is the method of leveraging change to bring about a successful resolution. - Harvard Business School

¹ https://managementhelp.org/organizations/culture.htm
The Change Journey

Emotions play a key role underpinning each phase

**AWARENESS**
- Alignment with Business Value
- Vision & Roadmap
- Etc.

**MOTIVATION**
- WIIFM
- Testimonials
- Swag, slogans, Etc.

**KNOWLEDGE**
- Launch Awareness
- Trainings
- Coaching
- Certifications
- Etc.

**REINFORCEMENT**
- Ongoing Communication Plan
- ROI & Value over time
- Success Stories
- Etc.

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This is new! Should I be concerned?

Other people are excited about it – maybe it can help me, too.

This is new!

This is interesting – I’m starting to understand how it can help me.

I’m seeing the value of this over time – how did I ever work without this?
Organizational Change Happens at Three Levels

An organizational move to a future state requires individuals to reach their own future state.

**INDIVIDUAL**

Enable people's success by supporting them through the dimensions of change.

**PROJECT**

Increase outcomes and ROI by integrating activities into the project plan that help prepare, manage, and reinforce change and results in adoption and usage.

**ORGANIZATION**

Affect culture changes in the enterprise by embedding Change Management into every Data Governance initiative.

"The achievements of an organization are the results of the combined effort of each individual".

Vince Lombardi
Garnering Excitement - Engage Marketing & Branding

- It’s beneficial to engage with your internal Marketing organization and/or an external agency
- Include a number of activities and materials in your communication and marketing plan. Here are a few ideas:
  - Video Testimonial from users/stakeholders
  - Executive sponsor video
  - Lunch and learn sessions
  - Roadshows
  - Training sessions
  - Newsletters
  - Website for data initiative
  - Data initiative slogan
  - “Swag” – t-shirts, stickers, mugs, etc.
  - Posters
  - Badges and awards

Avoid Data Jargon – use Business Language!
Resistance Management: Causes for and Approaches to

What looks like resistance is often a lack of direction

Typical Root Causes

**Executives:** Disconnected with their strategy, financial objectives or compensation

**Middle Management:** Lack of awareness, loss of authority or control, and overload of current responsibilities

**Employees:** Lack of awareness if why the changes are happening and “WIIFM”. Comfort with the status quo and fear of the unknown.

Addressing resistance management

- **Resistance prevention**
  - Change management applied early – at the onset of every project

- **Proactive resistance management**
  - Anticipation and early identification of likely resistance so it can be addressed and eliminated upfront

- **Reactive resistance management**
  - Applying a set of tactics when resistance becomes enduring and persistent

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Parting Thought – Culture Change in Your Organization

What do you think is the biggest fear of change that you’ll face?

What would be the biggest excitement/opportunity driver?
Summary

• **Aligning Data Strategy with business drivers & goals is key to success**

• **Orchestrate the people, process, technology, & culture required through a robust Data Governance program.**

• **Define a right-sized Data Architecture to manage technological change**

• **Your roadmap should tell a story** and show an evolution from the current state.

• **Define “quick wins”** as well as long-term value

• **Culture building and organizational change are critical to success**
DATAVERSITY Data Architecture Strategies

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- **December** Enterprise Architecture vs. Data Architecture
Who We Are: Business-Focused Data Strategy
Maximize the Organizational Value of Your Data Investment

In today’s business environment, showing **rapid time to value** for any technical investment is critical.

But technology and data can be complex. At Global Data Strategy, we **help demystify technical complexity** to help you:

- Demonstrate the ROI and **business value of data** to your management
- Build a data strategy **at your pace to match your unique culture and organizational style**.
- Create an **actionable roadmap for “quick wins”**, which building towards a long-term scalable architecture.

Global Data Strategy shares experience from some of the largest international organizations scaled to the pace of your unique team.

Global Data Strategy has worked with organizations globally in the following industries:

- Finance
- Retail
- Social Services
- Health Care
- Education
- Manufacturing
- Government
- Public Utilities
- Construction
- Media & Entertainment
- Insurance

... and more

www.globaldatastrategy.com