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What Does Information Management Maturity Look Like in 2026?

Presented by: William McKnight

"#1 Global Thought Leader and Influencer in Cloud and in Data Center" Thinkers360

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TOP VOICE ★ 2025 ★ thinkers 360

McKnight Consulting Group Partial Technology Implementation Expertise

Big/Analytic/Vector/Mixed Data Management

Data Movement and APIs

Data Management

Operational/Transactional Data Management

leaplogic

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The Approach

Last 30 intimate enterprise projects

Mostly clients
- Power Hour to Full Implementation

Confidential

50 Questions

Probing Answers

40 on Data Topics

10 on Business Success
- We used public information as well

Progression in data topics ~= data maturity

Categories and Areas of Assessment

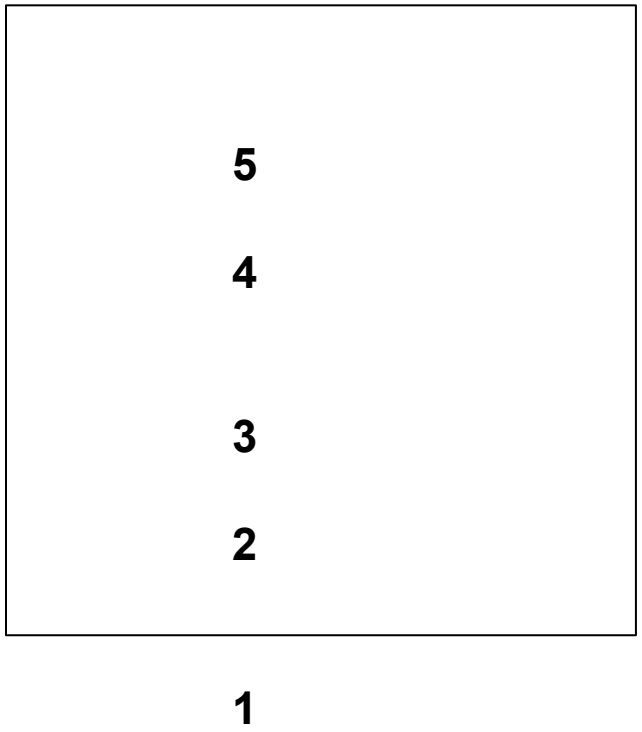
1. Data Strategy
- Executive Awareness & Alignment
- Data Valuation
- AI Readiness
- Personalization

2. Data Architecture
- Platform Heterogeneity
- Data Lakehouse & Virtualization
- Containerization & Discovery
- Data Lineage

3. Technology
- Data Integration
- Observability & Cataloging
- Edge Computing
- Master Data Management (MDM)

4. Organization
- Data Governance
- Roles & Skills
- Methodology
- Financial Operations (FinOps)

Results



Beyond the Mountain is Another Mountain

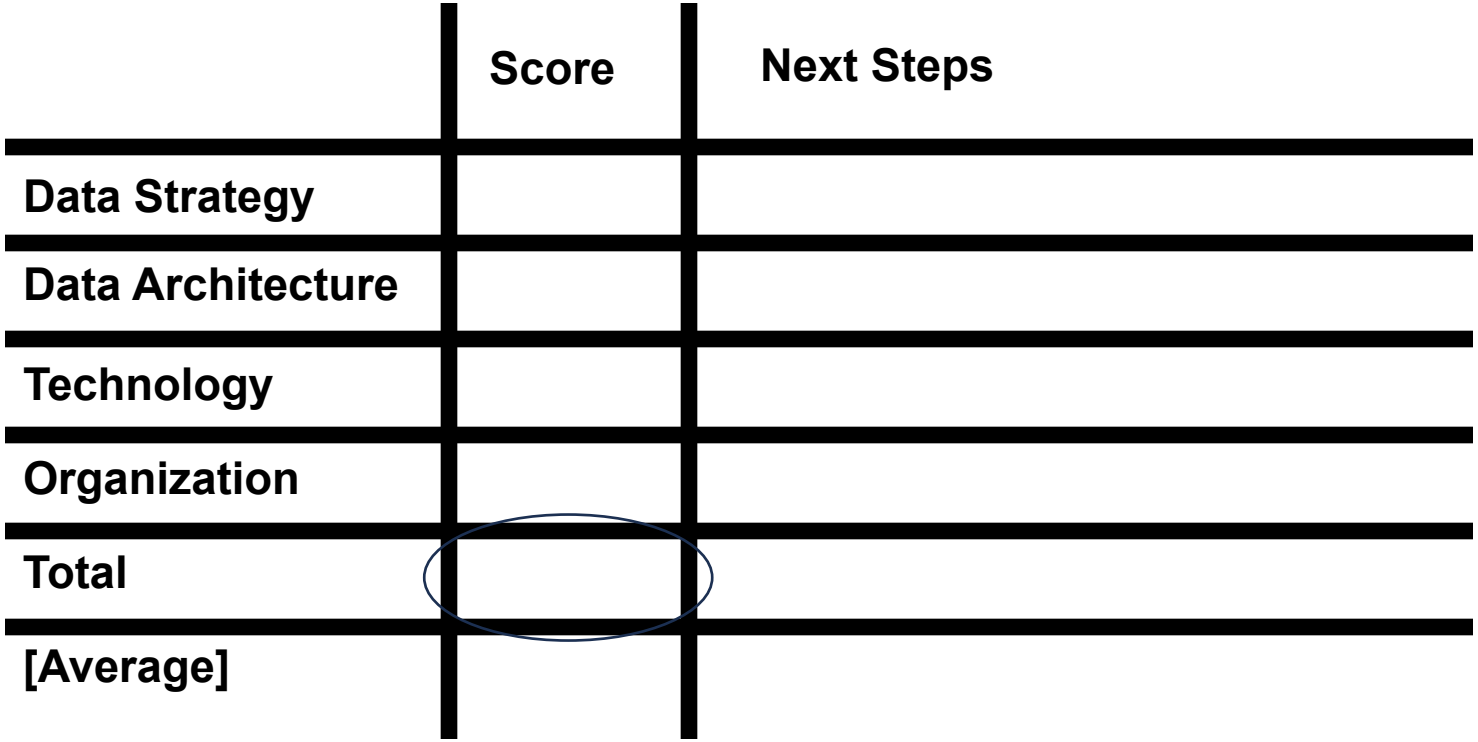
Maturity Modeling

- Capabilities emanate from the presence of the items shown
- Should give you a sense of priority
- You Can't Skip Levels – in any category
- Maturity Levels tend to move in harmony
- Midsize and smaller companies can +1
- Momentum is paramount!

Categories:

Information Management Professional Success Metrics

Information Management Maturity Scorecard



Maturity Level 1

"The Data Warehouse is a Struggle and that's the way it is and will always be"

Software at End of Life

"Artificial Intelligence is for Others"

Infrastructure Overwhelmed

Compliance Challenges

"One Vendor" Mentality

Outdated Tools

Cloud Costs Out of Control

Organizational Silos

High Data Skills Turnover

Resistance to Change

Multiple Overlapping Data Stores

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Data Strategy – Level 2 (Low Maturity)

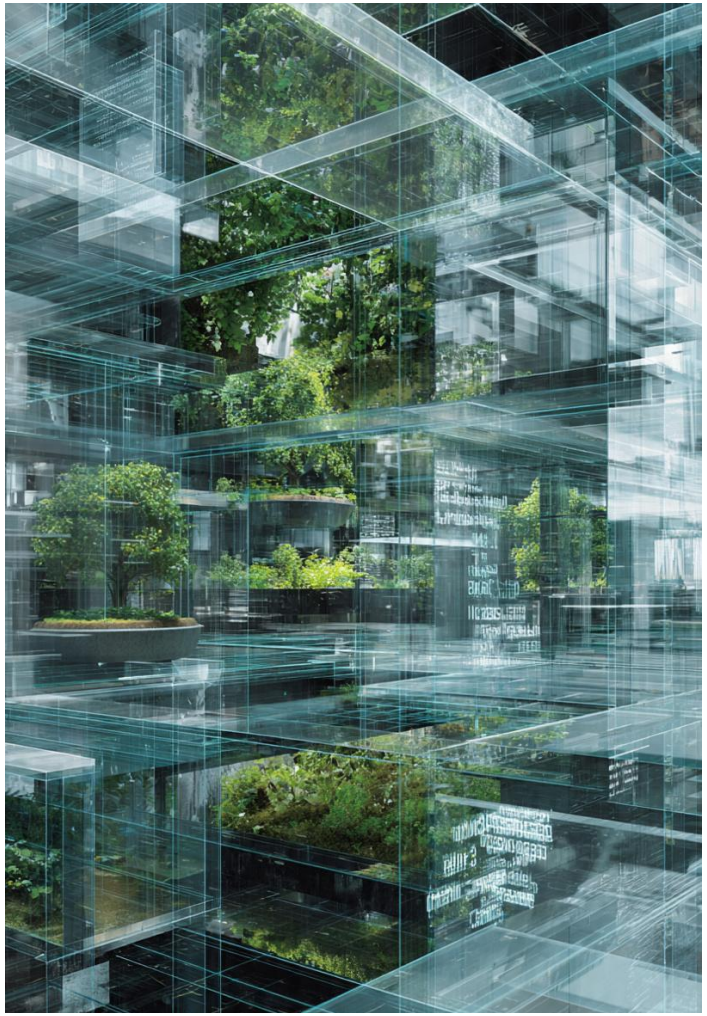
- Data viewed as operational exhaust, not a strategic asset
- AI pursued for hype rather than business value
- Success justified with vague, non-financial benefits
- Organization does not recognize need for change
- Focus limited to backward-looking reporting

Data Strategy – Level 3 (Medium-Low Maturity)

- Leadership acknowledges data importance but modestly funds foundations
- AI pilots exist without a path to scale
- Cloud-first strategy lifts and shifts legacy problems
- Data value recognized only within silos
- Standards discussed but weakly enforced

Data Strategy – Level 4 (Medium-High Maturity)

- Shift from descriptive to predictive analytics
- Initiatives prioritized using ROI and TCO discipline
- Data treated as a capital asset
- Generative AI embedded as human co-pilots
- Clear 3–5 year data roadmap in place



Data Strategy – Level 5 (High Maturity)

- Strategy centered on autonomous, agentic AI
- Data treated as a monetizable financial asset
- Operations become prescriptive and self-executing
- Personalization at the individual level
- Executives manage (minimal) outcomes while AI executes

Data Architecture – Level 2 (Low Maturity)

- Fragile point-to-point integrations dominate
- Single legacy platforms forced to do everything
- No visibility into data lineage
- Heavy reliance on inflexible on-prem infrastructure
- Tool sprawl creates silos and technical debt

Data Architecture – Level 3 (Medium-Low Maturity)

- Central cloud warehouse becomes a central resource
- Batch processing permeates architecture
- Virtualization used tactically, not strategically
- Brittle, hand-coded ETL pipelines
- Ungoverned data lake at risk of becoming a data swamp
- High use of open table formats

Data Architecture – Level 4 (Medium-High Maturity)

- Lakehouse architecture unifies data types
- Data fabric automates discovery and integration
- Compute and storage fully decoupled
- Multi-model databases reduce complexity
- Streaming enables near real-time analytics

Data Architecture – Level 5 (High Maturity)

- Decentralized data mesh with domain ownership
- Unstructured data managed with equal rigor
- Zero-copy and zero-ETL data sharing
- AI inference and processing at the edge
- Architecture prepared for quantum computing

Deeper Insights into Information Management Maturity

- Sovereign AI: Moving to BYOC/On-prem to reduce TCO by ~50% and secure IP.
- The ROI Rule
- From "Digital Librarian" to "Digital Researcher"
- Multi-Model Unification: Killing "Polyglot Persistence" to put Vector, Graph, and Relational in one engine
- Edge Evolution: Moving beyond simple data collection at the edge to Zero DBA / Zero ETL
- Semantic Layers for Agents
- GraphRAG: combining Vector search with Knowledge Graphs to solve hallucination/context issues.
- Moving from "static data quality rules" to Data Observability
- Data Engineering Elevation: Recognizing data engineers as the primary builders of enterprise value
- Emerging New Roles: AI Ethicist, AI Explainer, and Prompt Engineer
- Code-Based Orchestration
- Active Data FinOps, where the organization understands the exact "unit cost" of a query or a data product
- The "Active Ingest" Vector Standard

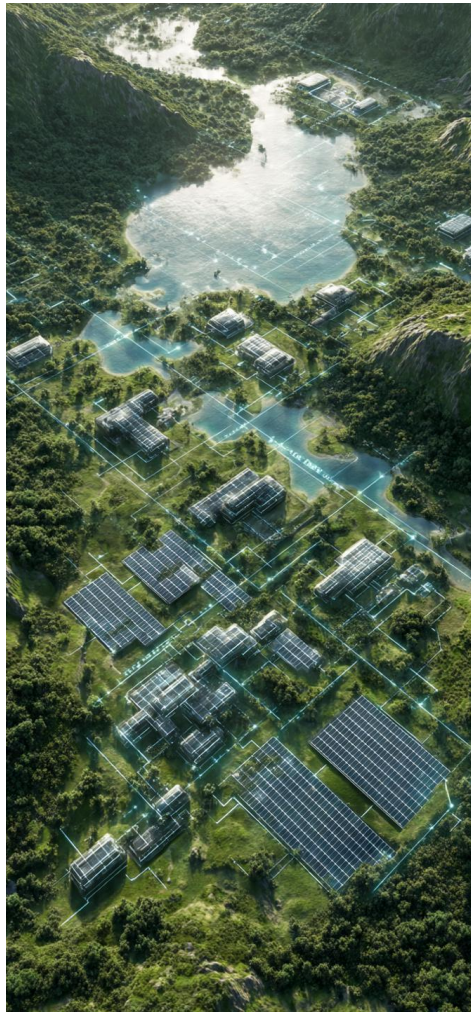
Technology – Level 2 (Low Maturity)

- Data quality addressed only after failures
- Custom scripts dominate all data work
- No machine learning or AI tooling
- Purchased tools remain unused
- Master data handled in spreadsheets and code

Technology – Level 3 (Medium-Low Maturity)

- MDM limited to a single domain
- Static, rule-based data quality checks
- Shift from ETL to ELT in the cloud
- Manual, outdated data catalogs
- ML experiments fail to reach production

Technology – Level 4 (Medium-High Maturity)



- Multi-domain MDM with automated matching
- Vector databases enable RAG use cases
- MLOps pipelines productionize models
- Observability monitors data health
- Automated lineage supports impact analysis

Technology – Level 5 (High Maturity)

- Generative AI automates MDM and metadata
- ML-driven observability detects unknown issues
- Platforms support autonomous AI agents
- Unified semantic layer aligns humans and AI
- Pipelines self-heal without intervention

Organization – Level 2 (Low Maturity)

- Data treated as an IT-only responsibility
- Governance absent or purely punitive
- Shadow IT proliferates
- No defined data ownership or roles
- Cloud costs are opaque and surprising

Organization – Level 3 (Medium-Low Maturity)

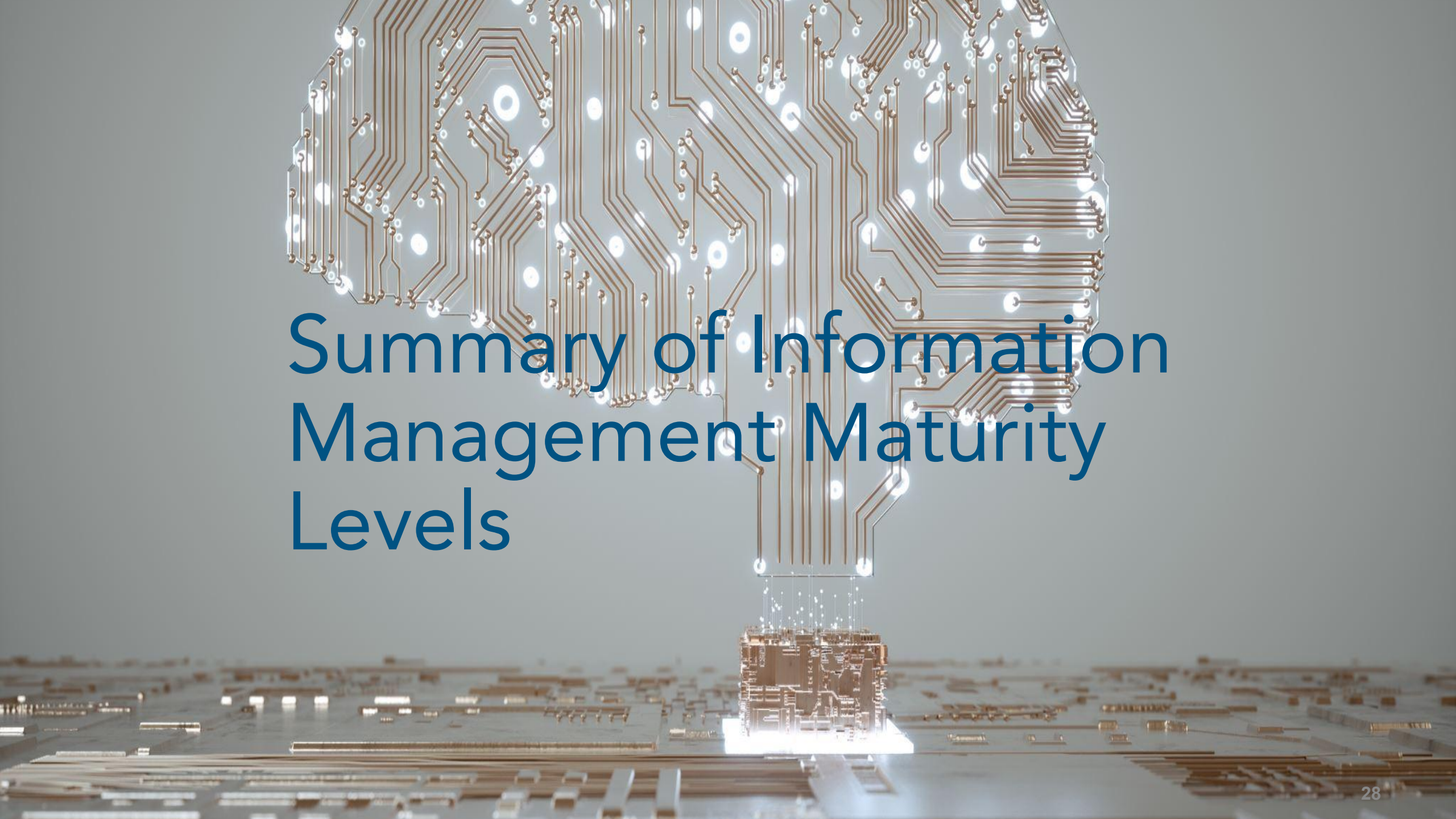
- Specialist data roles begin to emerge
- Governance limited to critical reports
- Teams deliver data, not projects
- FinOps is reactive and manual
- AI fear and resistance unmanaged

Organization – Level 4 (Medium-High Maturity)

- Chief Data Officer has executive authority
- Business-aligned data stewards own quality
- Change management is funded
- Data FinOps optimizes cost and performance
- Agile methods deliver incremental value

Organization – Level 5 (High Maturity)

- Governance embedded directly into platforms
- New AI-specific roles are formalized
- Data product owners manage SLAs
- Chief Information Architect ensures coherence
- Costs optimized against business value



Summary of Information Management Maturity Levels

Level 1: Ad-Hoc and Reactive

• **Strategy:** Executives view AI as "for others" and data as a byproduct rather than an asset. There is high resistance to change and a general skepticism toward cloud adoption.

• **Architecture:** The infrastructure is often overwhelmed and dated. The environment is characterized by "organizational silos" where departments hoard data ("that is *my* data") rather than sharing it.

• **Technology:** Excel remains the number one Business Intelligence (BI) tool. The organization relies on legacy tools or a "one vendor mentality" without exploring best-of-breed options.

• **Organization:** There is high turnover among data skilled professionals. There is no formal data architecture role; data tasks are often performed by application developers on the side.

Level 2: Emerging & Foundational

- **Strategy: Executive awareness of data's importance exists, though execution is still catching up. The organization typically adopts a "Cloud First" direction.**

- **Architecture: A central data warehouse is established, and a data lake is often in development. The organization moves away from "one size fits all" toward some platform heterogeneity.**

- **Technology: Reporting evolves into dashboards, and self-service BI begins to emerge. Data integration shifts from ETL to ELT (Extract, Load, Transform).**

- **Organization: Data specialists emerge as distinct roles separate from application developers. Some data governance exists, but it does not yet cover all subject areas.**

Level 3: Managed & Defined (The Minimum Target)

- **Strategy: The organization utilizes "Reactive AI" for automation and treats data as a capital asset requiring maintenance. There is a multi-year architectural plan in place.**

- **Architecture: Data virtualization is implemented to manage disparate sources. Data quality is actively measured (e.g., scoring data health), and basic data lineage is in place.**

- **Technology: Master Data Management (MDM) is operational for at least one major subject area. Graph databases are used for relationship data, and the data warehouse is fully cloud-based.**

- **Organization: A Chief Data Officer (CDO) is in place. Governance is organized by subject area, and Organizational Change Management (OCM) is integrated into data projects.**

Level 4: Advanced & Integrated

- **Strategy: The focus shifts to "Predictive Analytics"—using data to tune the future rather than just reporting on the past. AI is used to curate insights and recommend data quality rules.**
- **Architecture: A "Data Lakehouse" architecture is established, often utilizing Kubernetes and microservices. Full data lineage is available.**
- **Technology: Data observability tools are implemented to monitor pipeline health. MDM expands to cover multiple major subject areas, and the data catalog is actively populated and used.**
- **Organization: A Chief Information Architect role exists. Strong MLOps (Machine Learning Operations) pipelines are in place to iterate models rapidly.**

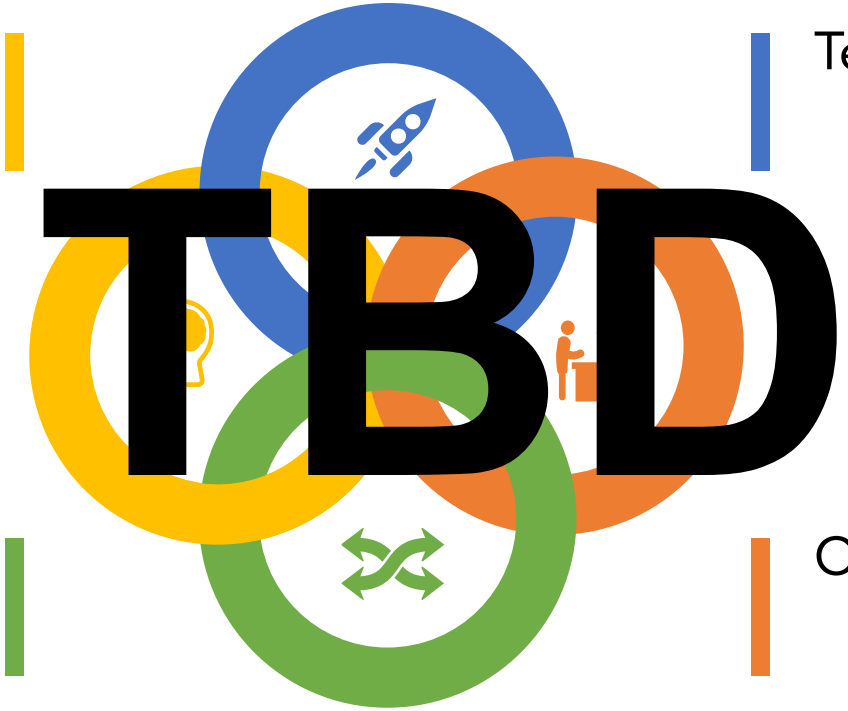
Level 5: Optimized & Visionary

- **Strategy: The organization engages in "Hyper-personalization" and produces "Information Products" as a primary output. It utilizes AI that learns from the past to build experiential knowledge.**
- **Architecture: Data is fully discoverable and self-describing. The architecture supports multi-model databases (handling Key-Value, Graph, Document, etc. in one engine) and "Edge AI" where processing happens on devices/sensors.**
- **Technology: Embedded databases are used within applications. Policy management tools automate security (e.g., masking PII across the board).**
- **Organization: Data governance is pervasive and viewed as a benefit ("the carrot") rather than a restriction. FinOps is practiced**

Maturity Level 1-5 in 2027

Data Strategy

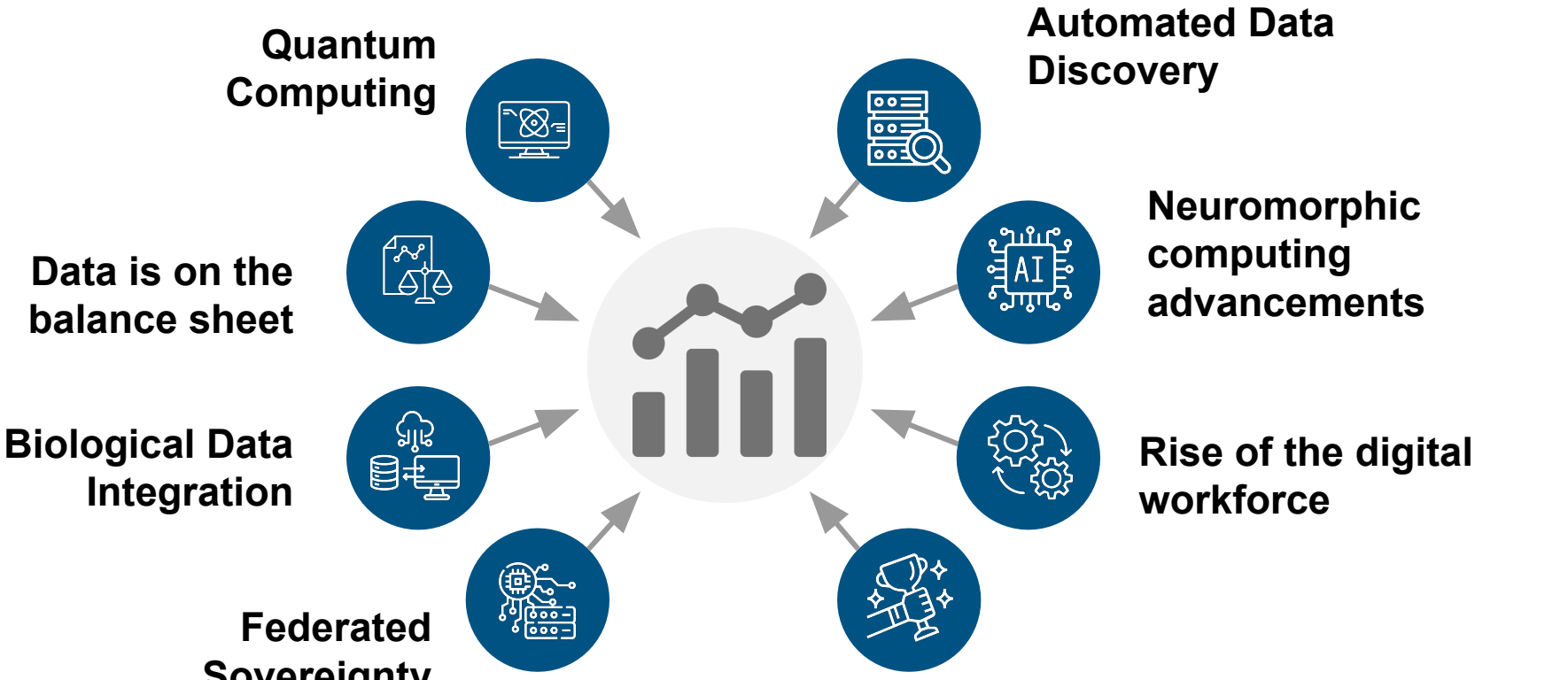
Technology



Architecture

Organization

Beyond 2027

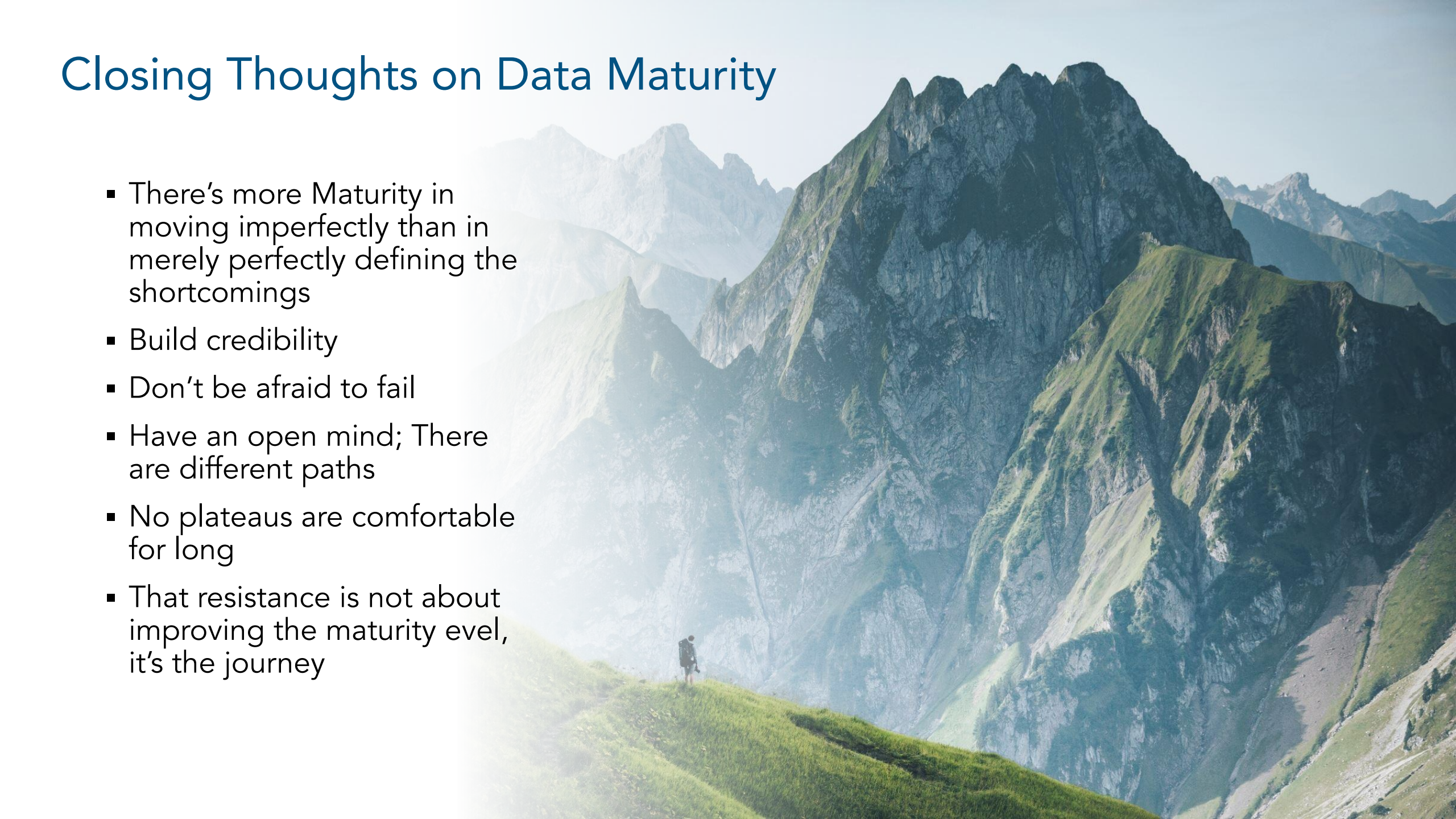


Given the rise of generative AI, those companies with strong monetizable data and a dedicated use case will be winners

Achieve Business Goals While Increasing Data Maturity

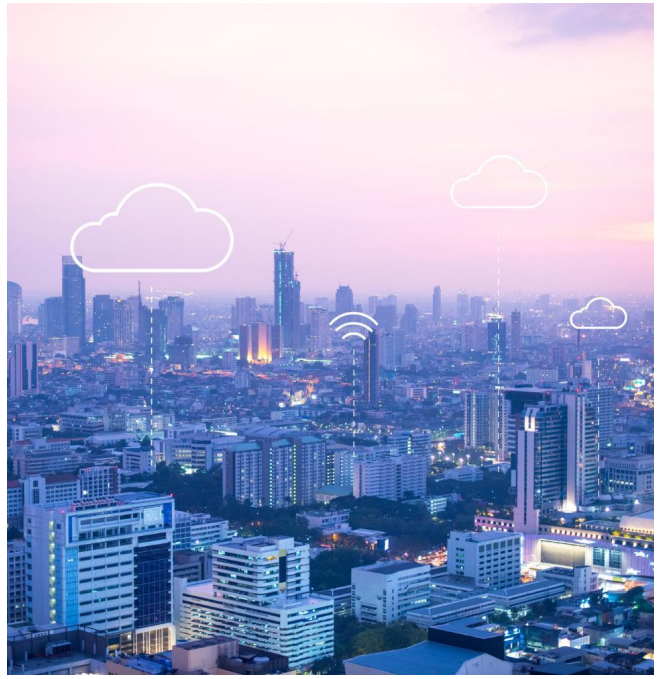
Closing Thoughts on Data Maturity

- There's more Maturity in moving imperfectly than in merely perfectly defining the shortcomings
- Build credibility
- Don't be afraid to fail
- Have an open mind; There are different paths
- No plateaus are comfortable for long
- That resistance is not about improving the maturity evel, it's the journey



Summary

- Business success is correlated with data maturity
- Key Areas include Data Lakehouse, Analytics, Master Data Management, AI, Data Quality & Observability, Data Governance, Vector Database Use, Multi-Model Use, Distributed Data Architecture, ROI-based Projects, Microservices Architecture, Cloud FinOps
- Strategy, Architecture, Technology and Organization Maturity go together
- Achieve Business Goals while Increasing Maturity
- Focus on the Data Architecture
- Beyond the Mountain is Another Mountain



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