



The Future of MDM

CDAO Fall - Boston

10/23/25

Malcolm T. Hawker
Chief Data Officer



THE FUTURE OF MASTER DATA MANAGEMENT

Wait a minute... I recall reading on LinkedIn that ~~Hadoop~~ ~~Big Data~~ ~~Data Virtualization~~ ~~Data Lakes~~ ~~Snowflake~~ ~~That Other Shiny Object~~ ~~Data Catalogs~~ ~~The Cloud~~ ~~Semantic Layers~~ ~~Data Mesh~~ ~~Data Fabrics~~ killed MDM?

Is MDM still relevant?



THE FUTURE OF MASTER DATA MANAGEMENT

**MDM has transitioned
from a 'nice to have'
to a 'must have'**
and is a foundational
component of any
digital transformation
initiative

Noted MDM Analyst, Published in Leading Industry Research



THE FUTURE OF MASTER DATA MANAGEMENT

If organizations allow business functions to manage their processes or data independently, **then master data management is required** to optimize cross functional operations and insights.

Noted MDM Analyst, Publi...

THE FUTURE OF MASTER DATA MANAGEMENT



The more freedom
we give business
units, **the more we
need MDM....**

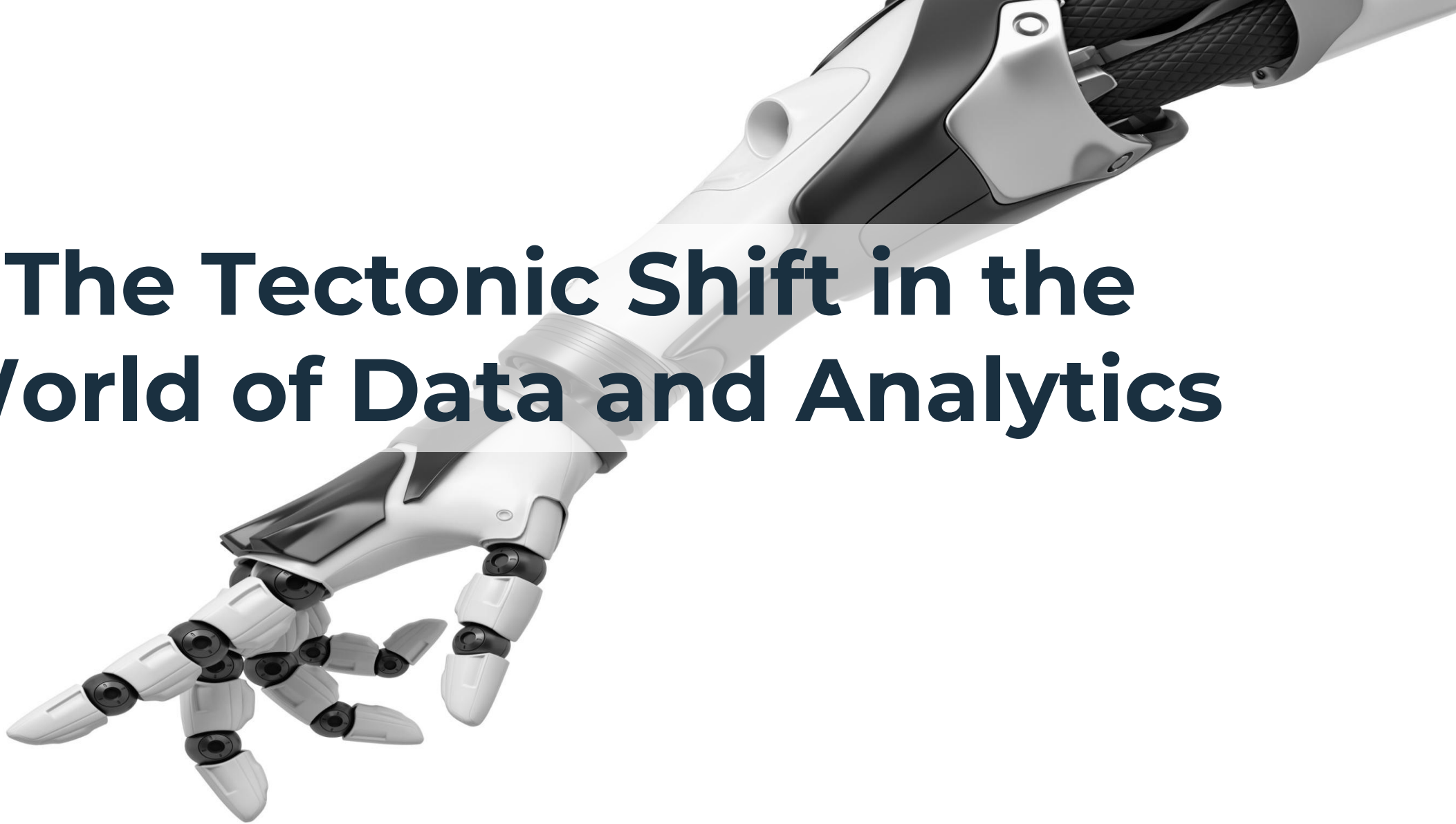
Noted MDM Analysts Group

THE FUTURE OF MASTER DATA MANAGEMENT



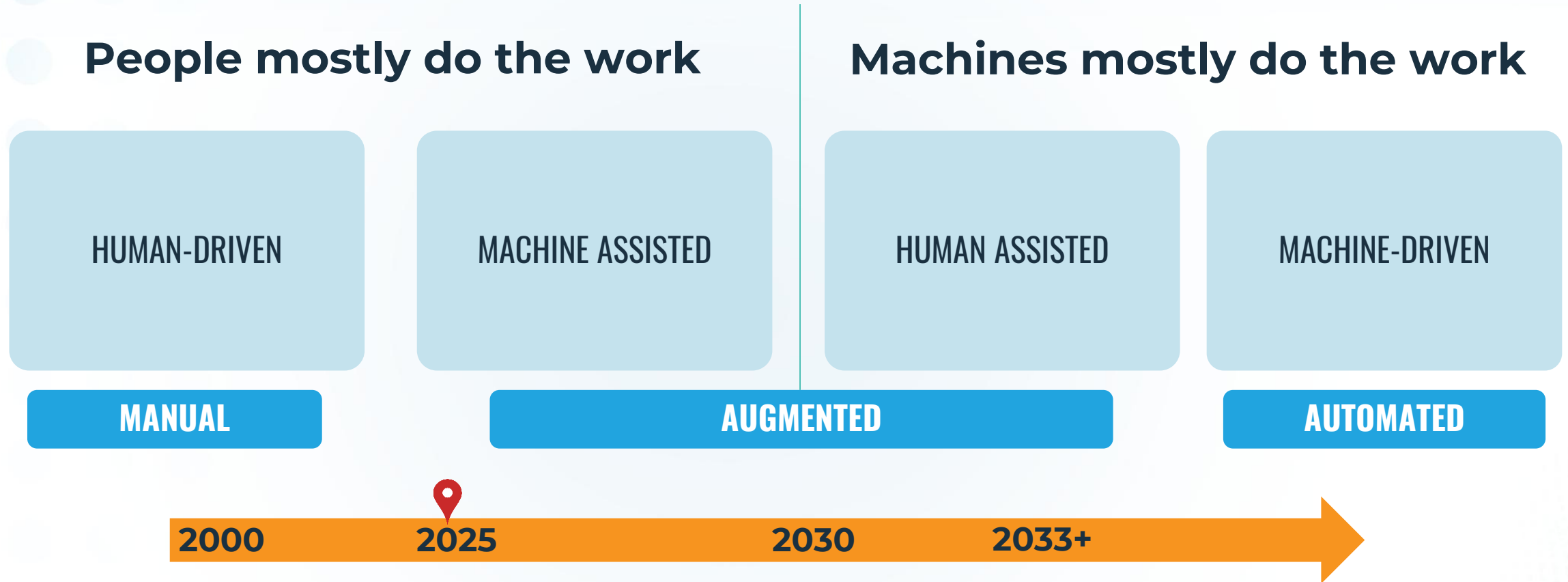
“The future of MDM
is bright, **because it
has to be**”

Noted MDM Analyst, Published in 2011



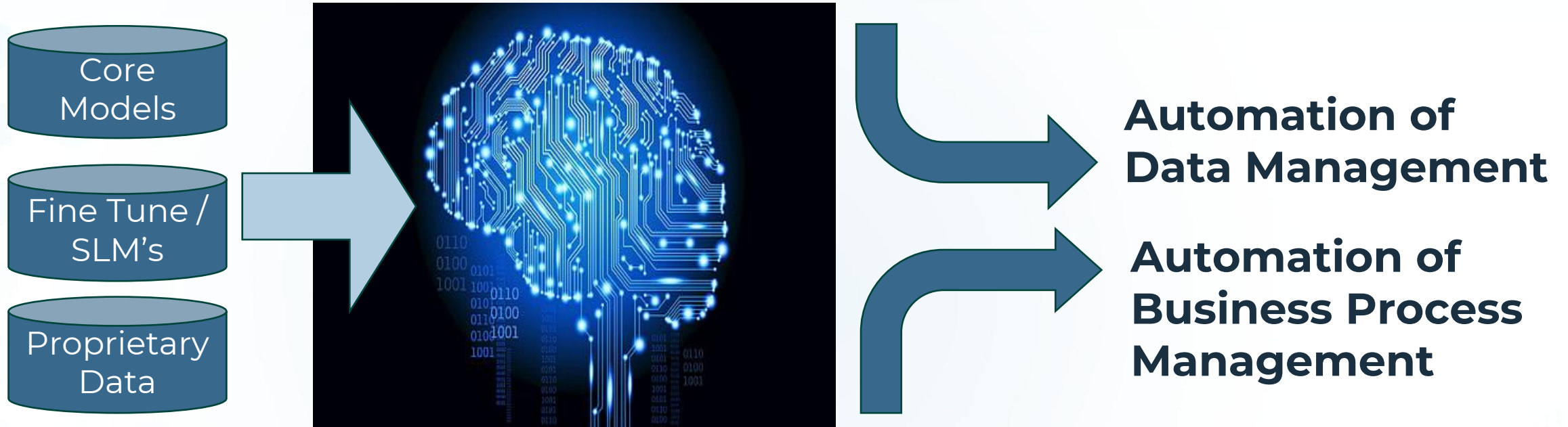
The Tectonic Shift in the World of Data and Analytics

THE MARCH TO FUTURE DATA MANAGEMENT (AND MDM)



The road to future MDM begins with ***process augmentation***, and leads to ***process automation***

ARTIFICIAL INTELLIGENCE AND LLMS



LLMs are the genesis of a new business 'operating system' and will fundamentally alter how we manage and drive value from data

ANSWERS TO MDM AND GOVERNANCE QUESTIONS

What data is master data?

What is the best MDM implementation style?

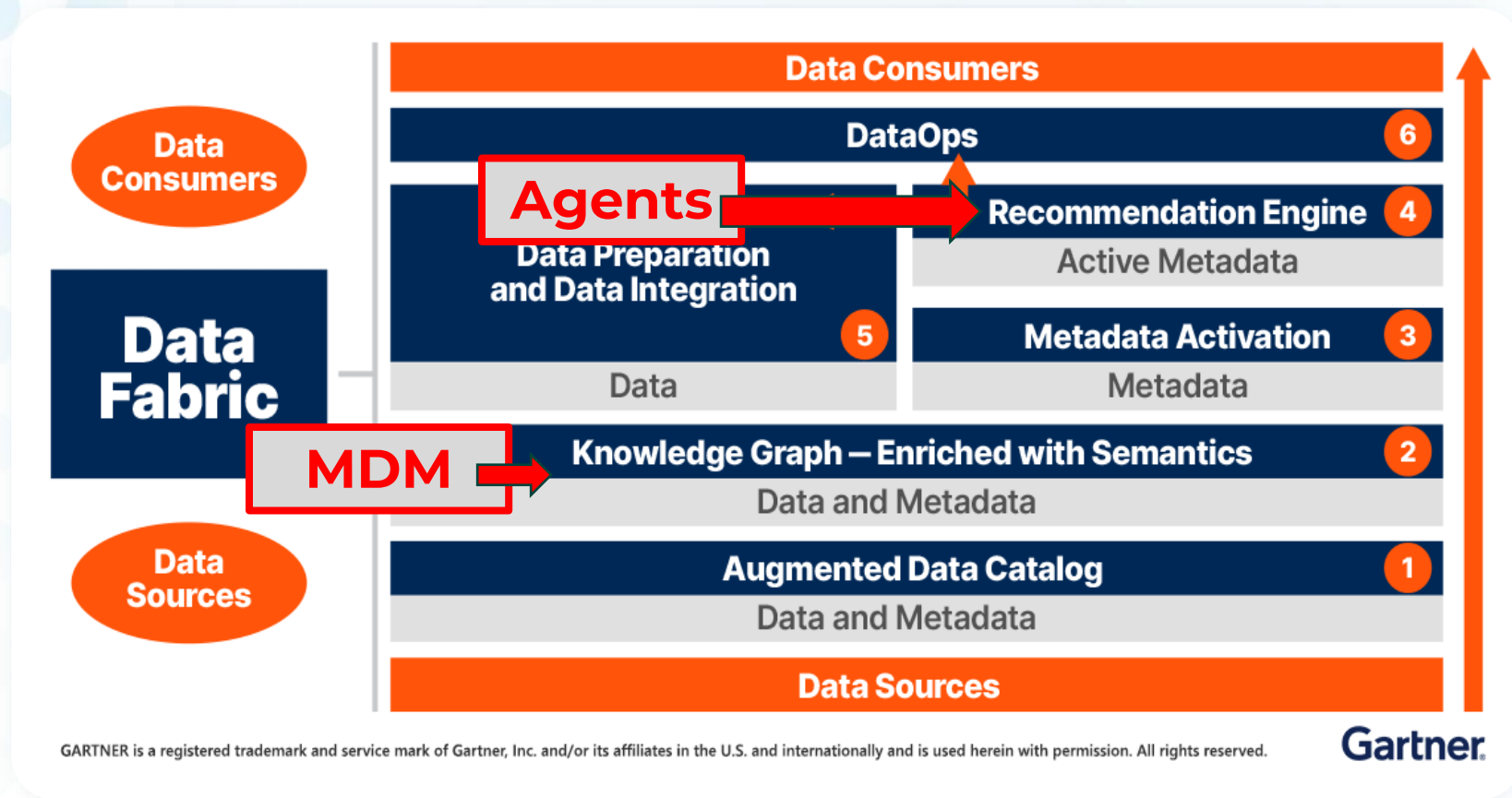
Who should be able to update record?

When is data accurate?

What should my governance policy be?



THE MASTER DATA FABRIC

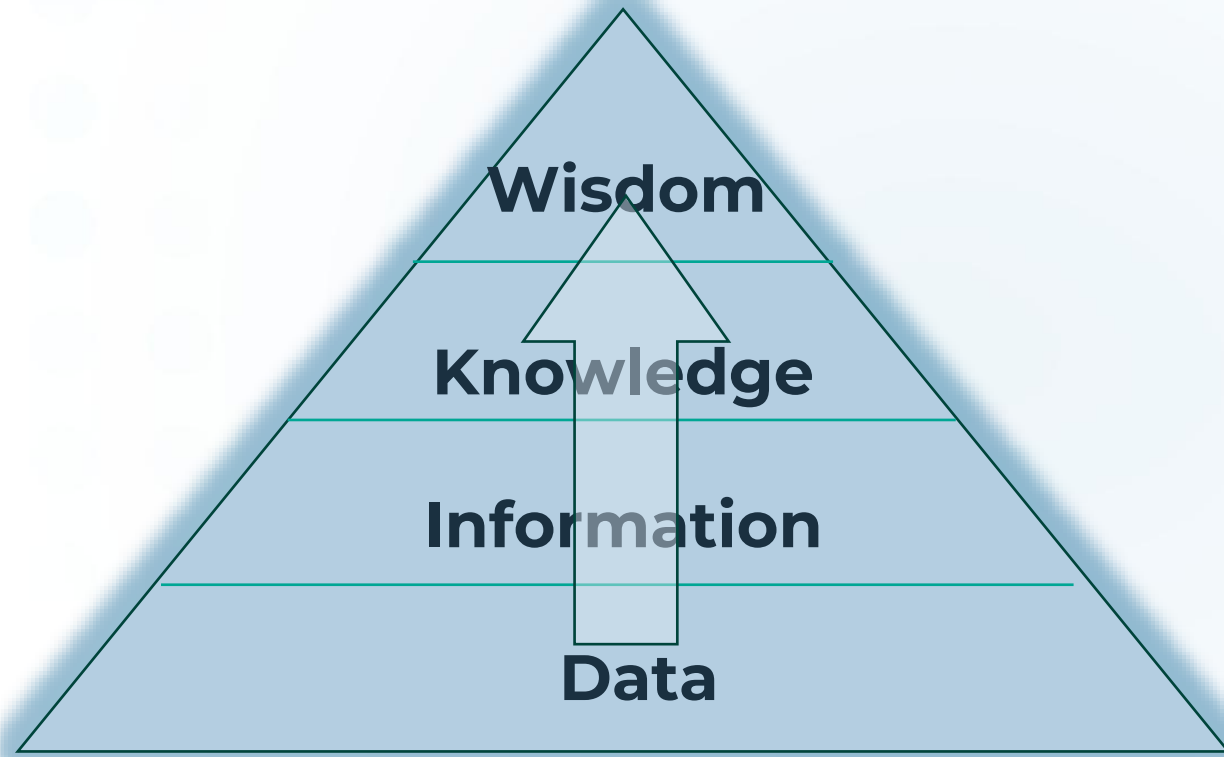


The **'activation'** of metadata is the creation of an AI-enabled data management model.

The interface to the model is a team of AI Agents supporting all data management use cases.

MDM transitions to become a foundational element of a new 'Semantic Layer' which provides definitions and context to agents.

DATA VS. KNOWLEDGE – THE DIKW FRAMEWORK



PART I

The scene is an open place, with an irregular middle. The CHORUS, seven male and ten female, are discovered. They speak as the voice of God.

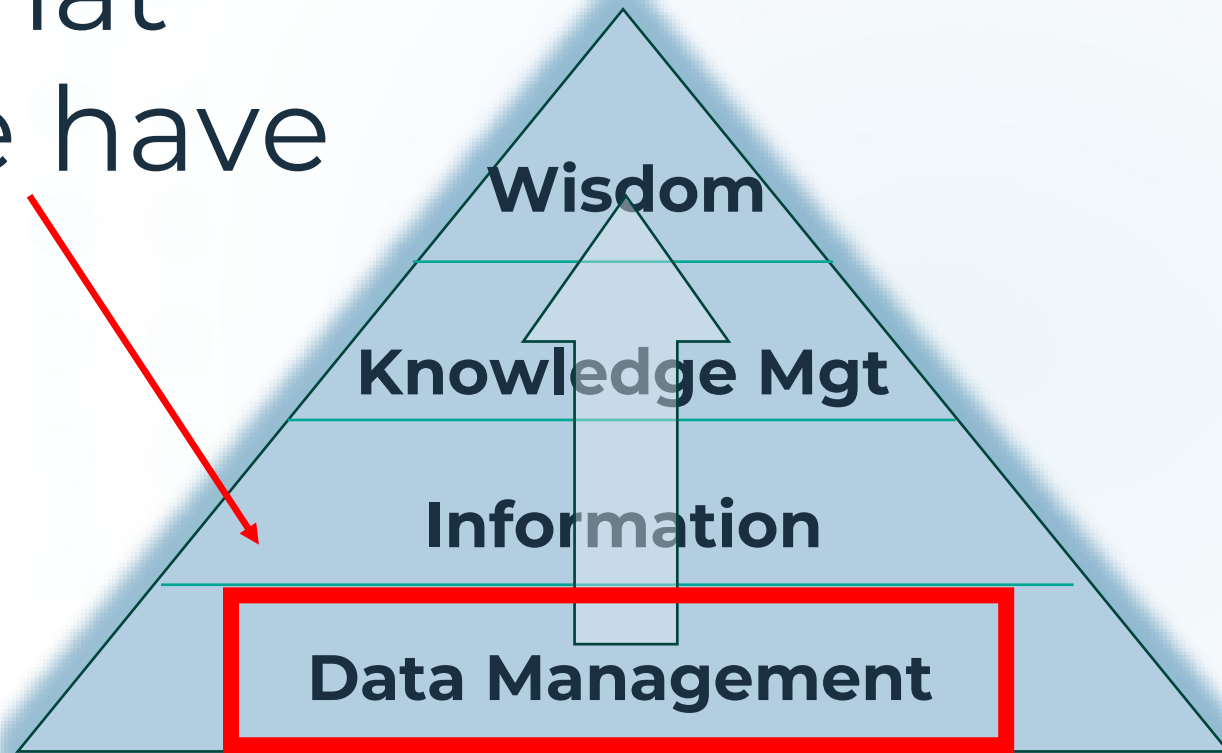


The Eagle soars in the summit of Heaven
The Hunter with his dogs pursues his circle
O perpetual revolution of configured stars
O perpetual recurrence of determined seas
O world of spring and autumn, birth and dying!
The endless cycle of idea and action,
Endless invention, endless experiment,
Brings knowledge of motion, but not of stillness;
Knowledge of speech, but not of silence;
Knowledge of words, and ignorance of the Word.
All our knowledge brings us nearer to our ignorance,
All our ignorance brings us nearer to death,
But nearness to death no nearer to GOD.
Where is the Life we have lost in living?
Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?
The cycles of Heaven in twenty centuries
Bring us farther from GOD and nearer to the Dust.

I journeyed to London, to the timekept City,
Where the River flows, with foreign flotations.
There I was told: we have too many churches,
And too few chop-houses. There I was told
Let the vicars retire. Men do not need the Church

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What
we have



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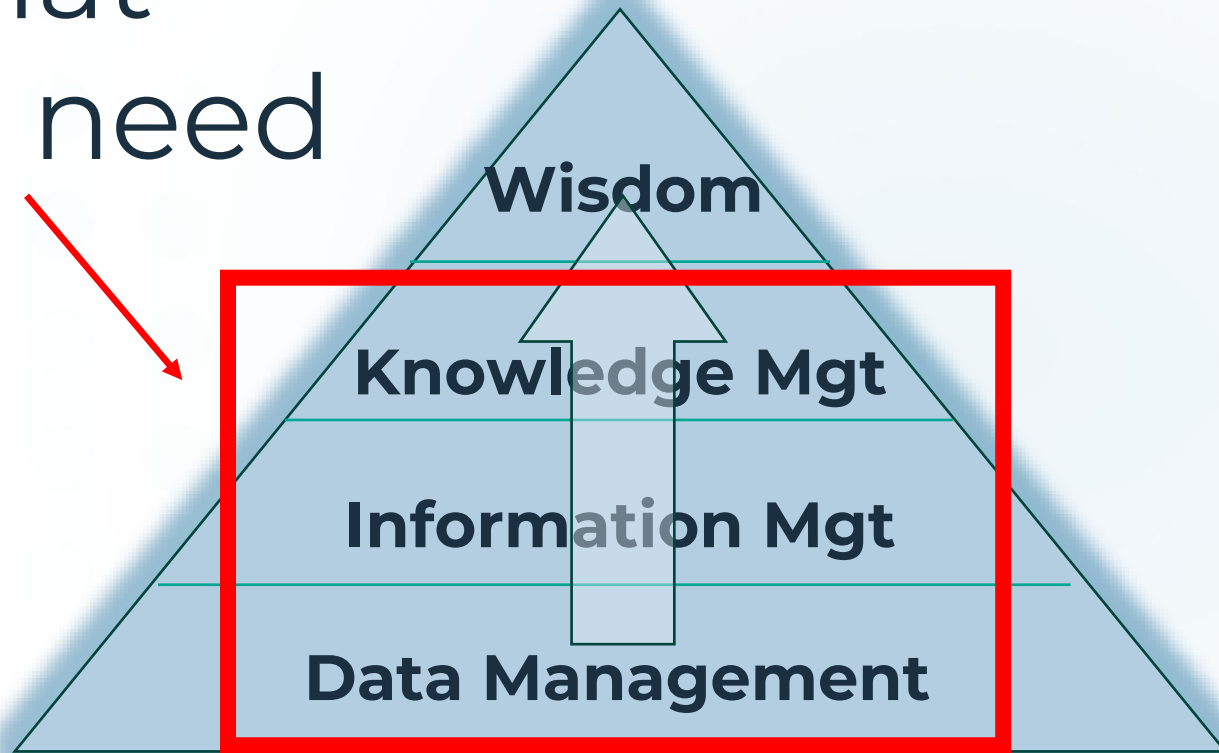


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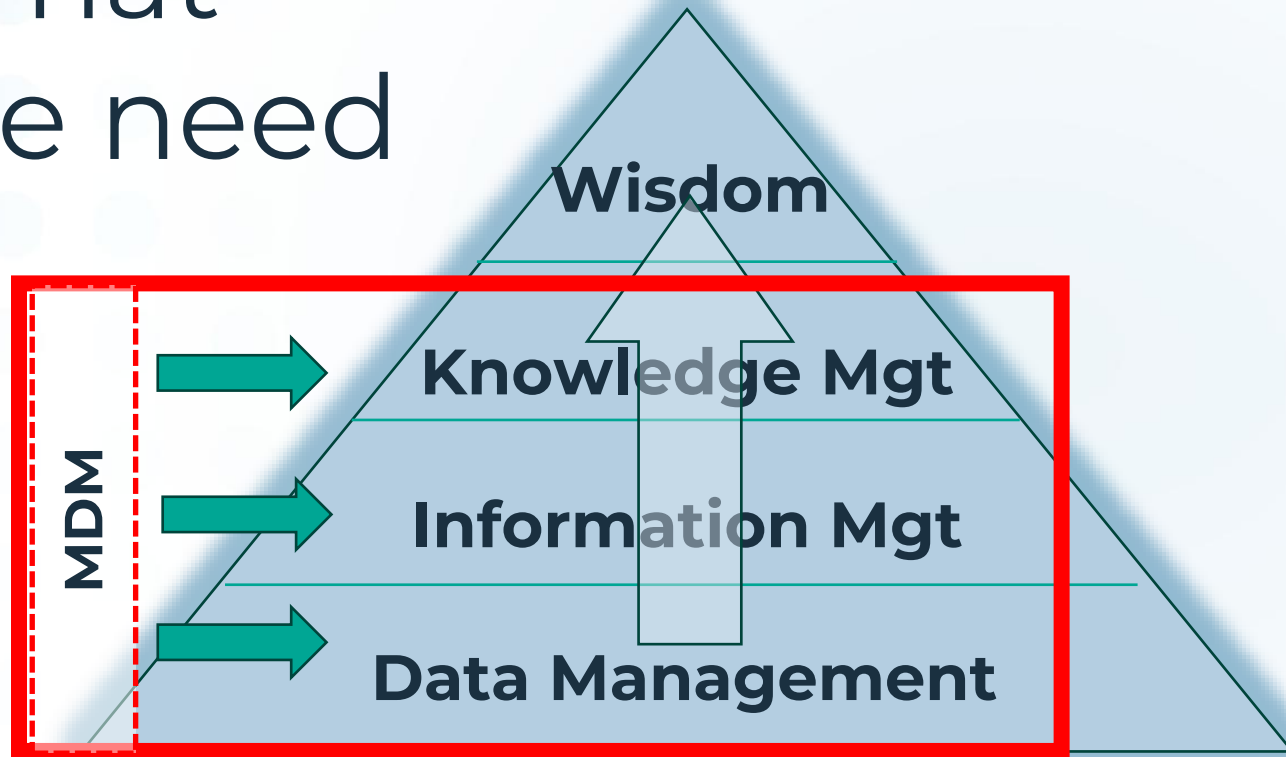


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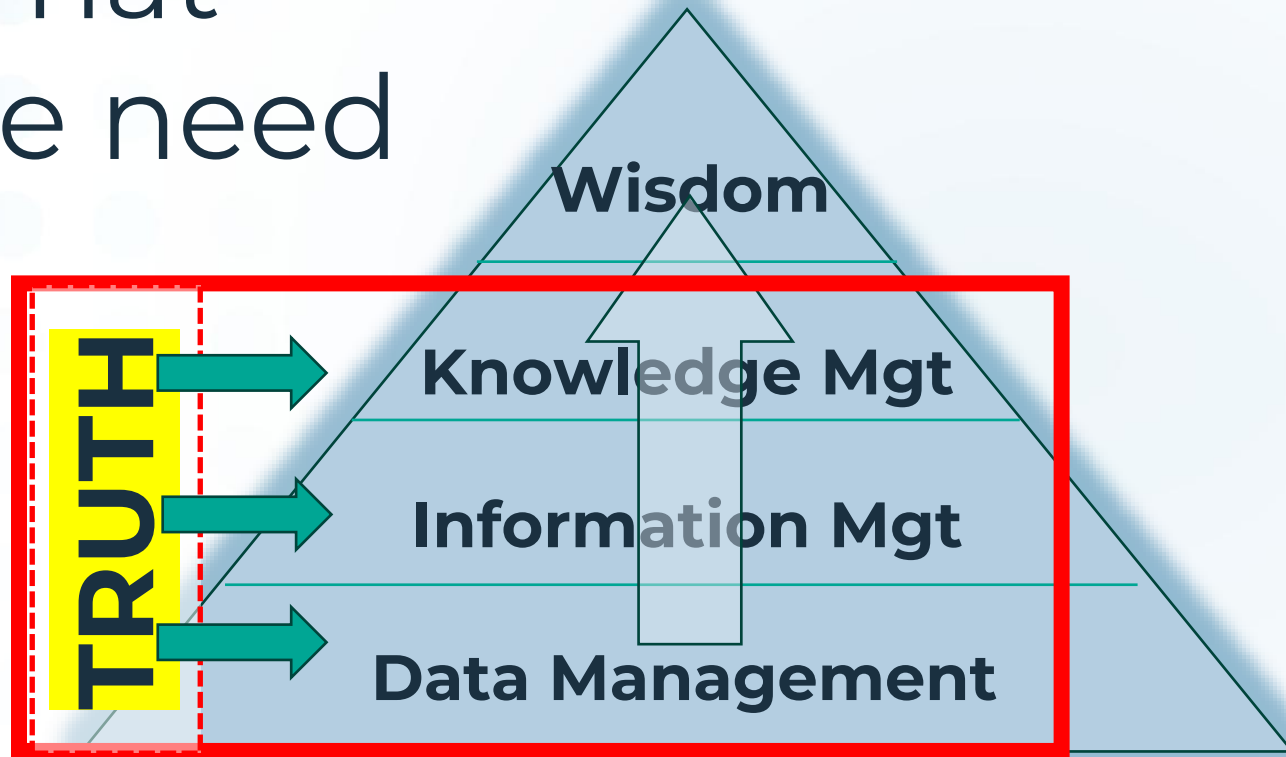
MDM Critical Capabilities across
each layer of this ecosystem:

- Master data definitions
- Enforcement of data quality rules, including match/merge at a **record level**
- Data stewardship
- Reference data for master data hierarchies
- Integration to operational systems (CMS, KM, LMS, etc.)

As MDM connects data silos today, tomorrow it will connect metadata silos spanning each layer of this ecosystem

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MDM MOST CRITICAL CAPABILITIES – 2030

- **Adaptive MDM Data Modeling and Governance**
- **In Situ Data Matching**
- **Deep Integration with Governance & Catalog Platforms**
- **External Data Sharing & Blockchain**
- **Multi-Dimensional Hierarchies**
- **AI-Supported, Distributed Stewardship**
- **Support for Information and Knowledge Management**

Adaptive Data Governance and Modeling

What is it:

Adaptive governance allows for context-aware policies to be dynamically applied at the point of creation or consumption of data, based on recommendations coming from governance platforms, with human oversight.

Why is it needed:

Highly decentralized, 'domain centric' approaches to managing both business processes and data will accelerate in response to a need for more business flexibility

Adaptive Data Governance and

What is it:

Adaptive governance allows for context-aware policies to be dynamically applied at the right time, in the right place, and by the right people.

The concept of truth is contextually bound.

Highly decentralized, 'domain centric' approaches to managing both business processes and data will accelerate in response to a need for more business flexibility

Ad
Go
and

What is it:

**But within any one
context, there can be
only one version of
truth**

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r
ight.

processes and data will accelerate in response
to a need for more business flexibility

IN SITU DATA MATCHING – CONNECT, DON'T COLLECT!

In Situ Data Matching

What is it:

In situ entity resolution allows for data to be matched and mastered wherever it resides, without being replicated and persisted in an MDM hub

Why it's needed:

The scalability demanded of MDM programs requires matching to be decoupled from master data modelling and persistence. Limitations on matching have historically been the primary reason MDM is the 'least data for the most impact'.

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Connect, don't collect

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Data Catalog & Governance Platform Integration

What is it:

MDM will consume governance policies from catalogs and enforce them within business applications, which requires active, bi-directional flows. Increasingly these policies will be recommended by AI agents.

Why it's needed:

The greatest value of MDM will remain its ability to enforce governance policies in source systems. The context-based insights needed to inform governance policies will increasingly come from graph and AI enabled analytics platforms

External Data Sharing & Blockchain

What is it:

MDM software will increasingly break silos across companies and enable data sharing and governance networks in complex value chains. Blockchain will be used to allow for consensus management and incentives to manage shared data

Why it's needed:

MDM will be used to reduce the risks inherent to deeply interconnected global supply chains and expose insights impossible for a single company to manifest.

Multi-Dimensional Hierarchies

What is it:

Hierarchies represented as complex three-dimensional networks.

Why it's needed:

The pandemic and related supply chain shocks increased the need for companies to be aware of second- and third-degree relationships within complex value chains or transactions. MDM hierarchies will be extended to highlight risks beyond first degree relationships.

Multi-Dimensional Hierarchies

What is it:

Hierarchies represented as complex three-dimensional networks.

Why it's needed:

Complex Taxonomies and Knowledge Graphs

relationships within complex value chains or transactions. MDM hierarchies will be extended to highlight risks beyond first degree relationships.

AI-Supported & Distributed Stewardship

What is it:

Heavily augmented data stewardship within the applications where business data is created and managed. Stewardship pivots to include 'human in the loop' AI use cases.

Why it's needed:

Reinforcement learning from within business applications will feed MDM systems to allow for scale and efficiencies impossible from within a single stewardship UI.

AI-Supported & Distributed Stewardship

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Heavily augmented data stewardship within the applications where business data is created and managed. Stewardship pivots to include 'human in the loop' AI use cases.

**Human in the loop... across
more than just data
management use cases**

business
to allow
for scale and efficiencies impossible from
within a single stewardship UI.

Knowledge & Information Management

What is it:

Traditional 'semantic layers' and MDM platforms consolidate. MDM programs expand into **unstructured data**.

Why it's needed:

GenAI based systems are built on, and optimized by, unstructured text-based insights. The need for a common language across these insights is still highly relevant, and MDM will help to serve as a 'bridge' between data, and knowledge-based insights.

THE FUTURE OF MASTER DATA MANAGEMENT

Key People and Process Considerations



FUTURE MDM – FROM DATA TO CUSTOMER-DRIVEN

DATA DRIVEN



CUSTOMER DRIVEN



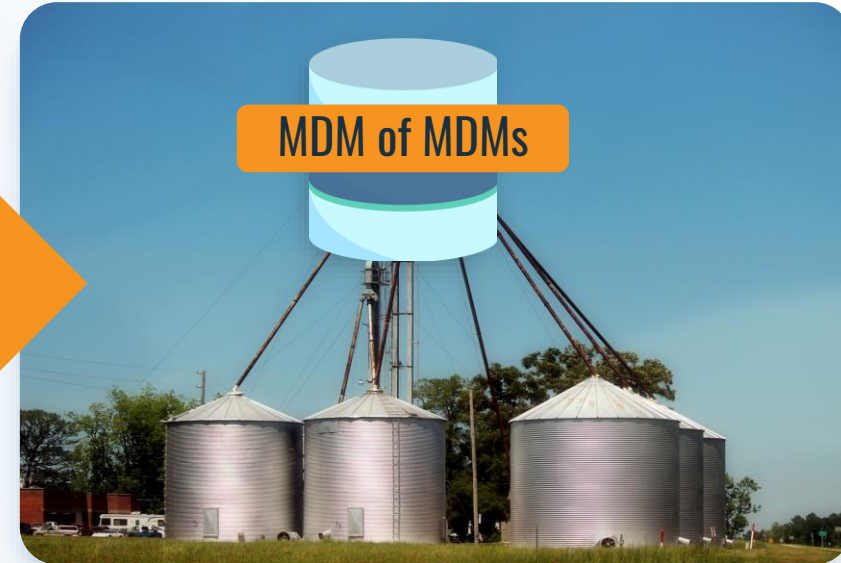
Data First	→	Customer First
Starts with an Inventory	→	Starts with a Business Need
Work backwards from an output	→	Work backwards from an outcome
Master Data	→	Shared Data
Data Literacy is the Problem	→	Business Acumen is the Problem
Data Governance	→	Data Enablement

FUTURE MDM – FROM DATA HOARDING TO DATA SHARING*

Each Company as a Data Silo

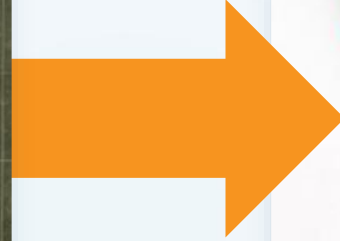


MDM and MCP Enabled Data Sharing Ecosystems



*** Bonus - your CDO hits her/his sustainability target, and you get to help save the planet!**

FUTURE GOVERNANCE – FROM RULE TO EXCEPTION MANAGEMENT

A close-up of a white rating form with a red pen resting on it. The form has a column of checkboxes on the left and corresponding labels on the right. The top row is checked and labeled 'Exceptional'. The other rows are empty and labeled 'Exceeds requirements', 'Meets requirements', and 'Needs improvement'.

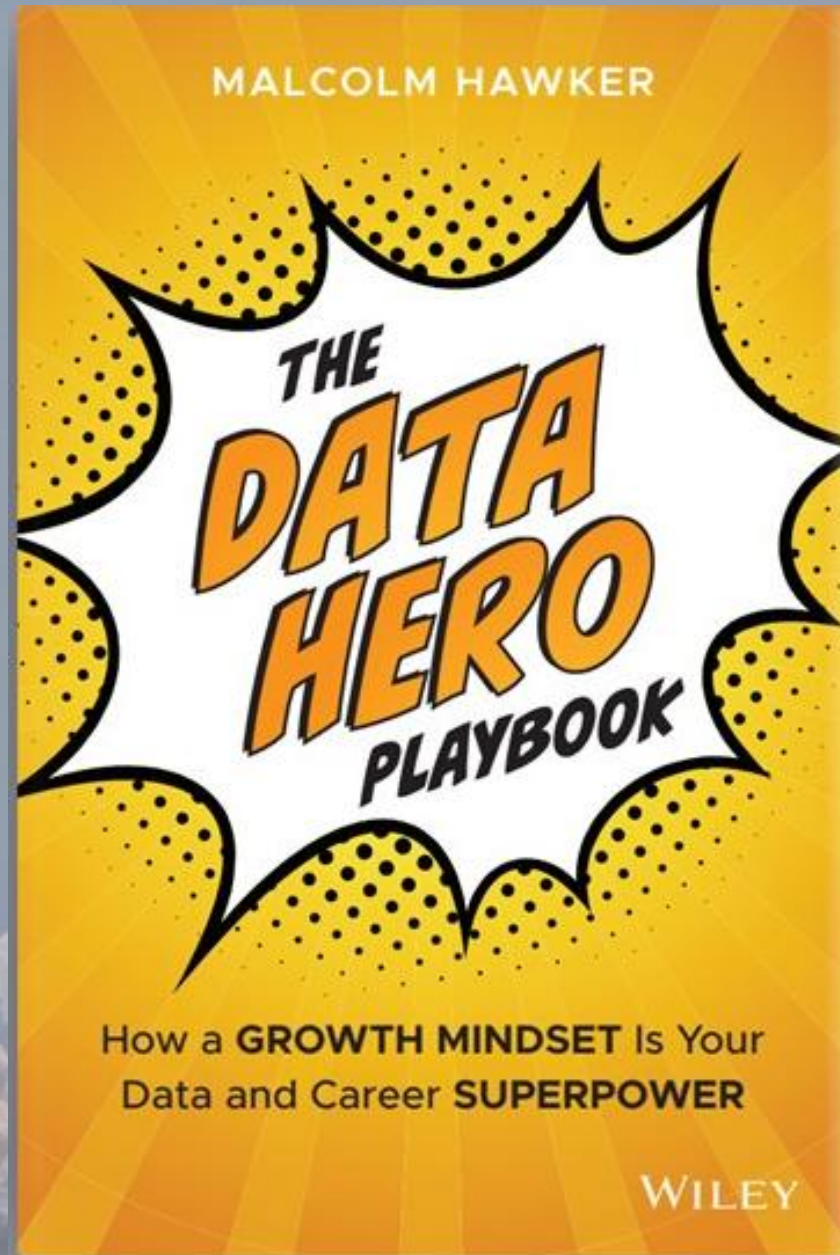
RATING	
☒	Exceptional
☐	Exceeds requirements
☐	Meets requirements
☐	Needs improvement

Increasingly, the 'rules' will be determined via successful business outcomes, and anomalies will trigger governance reviews.

There will always be some degree of rules defined via regulatory edict.

ARE YOU READY?





**Available on
Amazon.com**

Thank You!

ADDITIONAL RESOURCES

1. **Monthly CDO Matters Live** - Last Friday of every month – ask me anything!
2. **CDO Matters Podcast** – on Spotify, Google, Apple
3. **Profisee.com/Resources** – tons of Blog and Whitepaper content on MDM best practices!
4. **Connect with me on LinkedIn!** – [Linkedin.com/malhawker](https://www.linkedin.com/company/profisee)
5. **2025 Events – Come Hear Me Speak!**
 - Data Day Texas – January, Austin
 - Gartner Data and Analytics – March, Orlando
 - IRM MDM (Keynote) – March, London
 - MSFT MTC – March, Amsterdam
 - Gartner Data and Analytics – May, London
 - DGIQ West – May, Los Angeles

