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Top Trends for Data and Analytics in 2023

Sally Parker

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The Power of Trends

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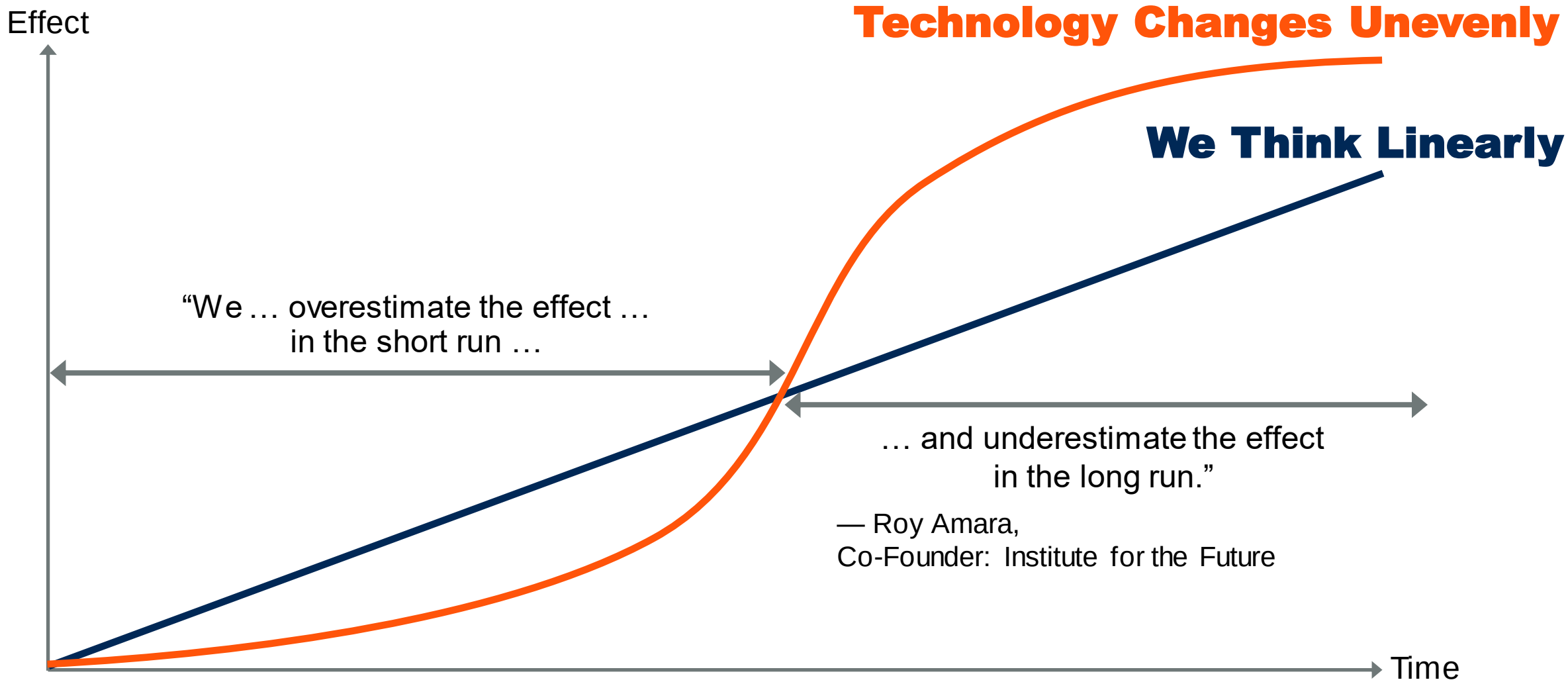
The Impact of New Technologies Is Uncertain



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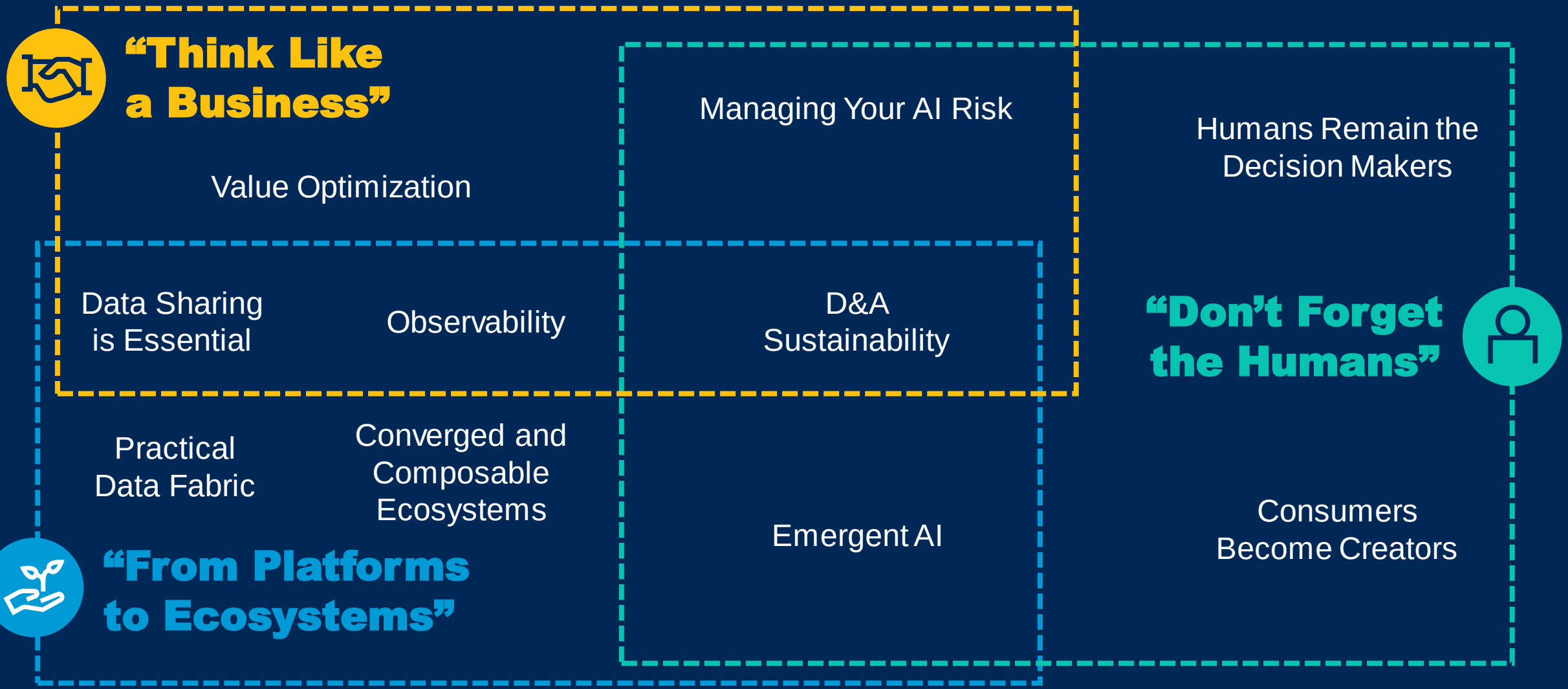
Driving Value at Scale



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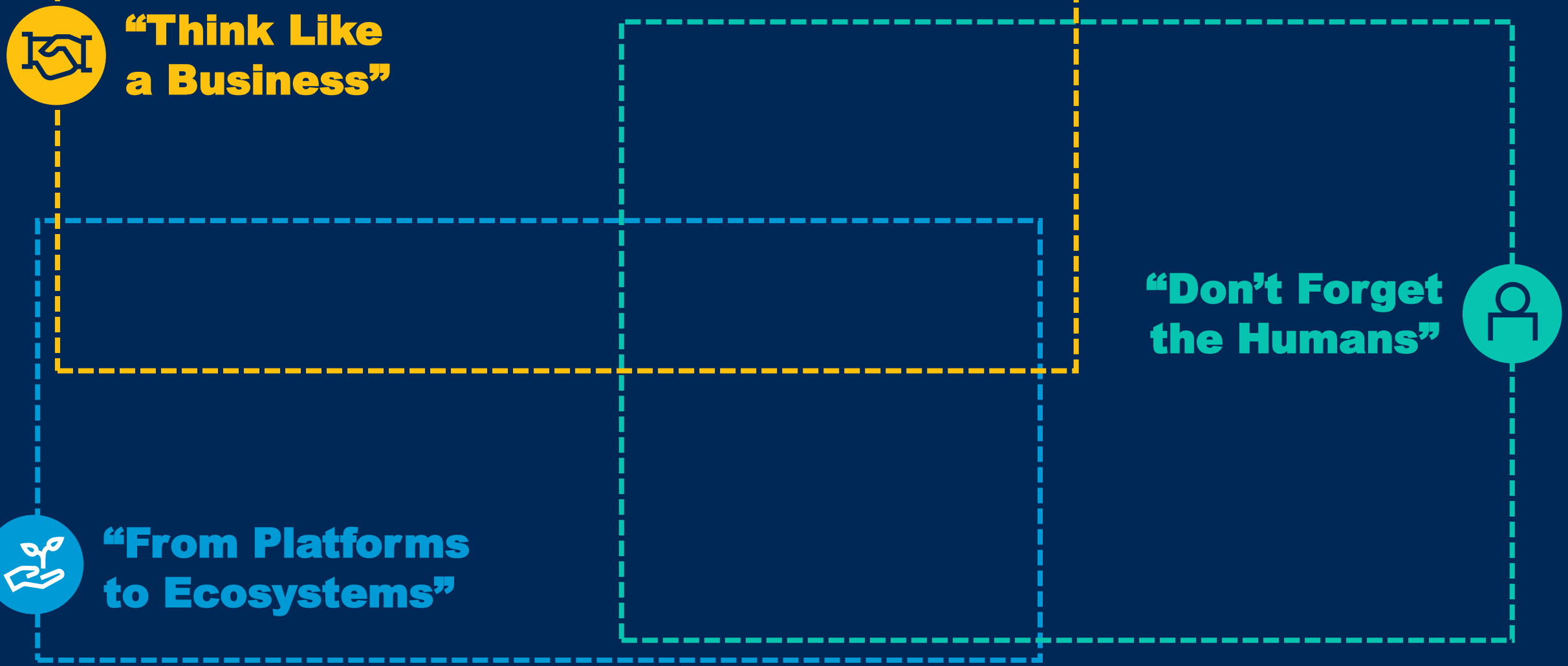

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Theme 1 — Think Like a Business

What This Means:

D&A can deliver the most value when it acts as a business rather than a supporting business function:

- Be **proactive** not **reactive.**
- Data and analytics as a **product** to be “sold” to the rest of the organization.
- Owning responsibility for data and analytics assets and outcomes.
- Balancing cost of delivery with the value delivered.

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Value Optimization

What You Should Do:

- Create a clear link between D&A initiatives and business value
- Optimize resource-allocation decisions by creating a consistent approach to scoring investment options

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Managing Your AI Risk

What You Should Do:

- Establish an AI governance/ethics board to provide guidance, monitor AI activities and resolve issues based on a clear set of principles and practical guidelines.
- Create awareness and build skills for effective AI risk management, supported by technology for e.g., model monitoring, fairness testing and privacy enhancement.

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3 Observability

What You Should Do:

- Understand current state based on the movement, access and utilization of data and analytics so that you can proactively learn, understand and visualize outcomes and be proactive in operating efficiently and at reduced costs.

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Is Watching You

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Data Sharing Is Essential

What You Should Do:

- Adopt data fabric design to enable a single architecture for data sharing.
- Establish trust in data through automated mechanisms and metrics from active metadata insights, augmented data catalogs and automated data quality metrics.

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5

D&A Sustainability

What You Should Do:

- Prioritize or start initiatives that optimize operations to boost sustainability and ESG goals.
- Raise awareness in D&A and AI teams about their own impact on sustainability. Foster the use of observability to monitor energy consumption and adopt emerging practices to improve energy efficiency.

Source: UN

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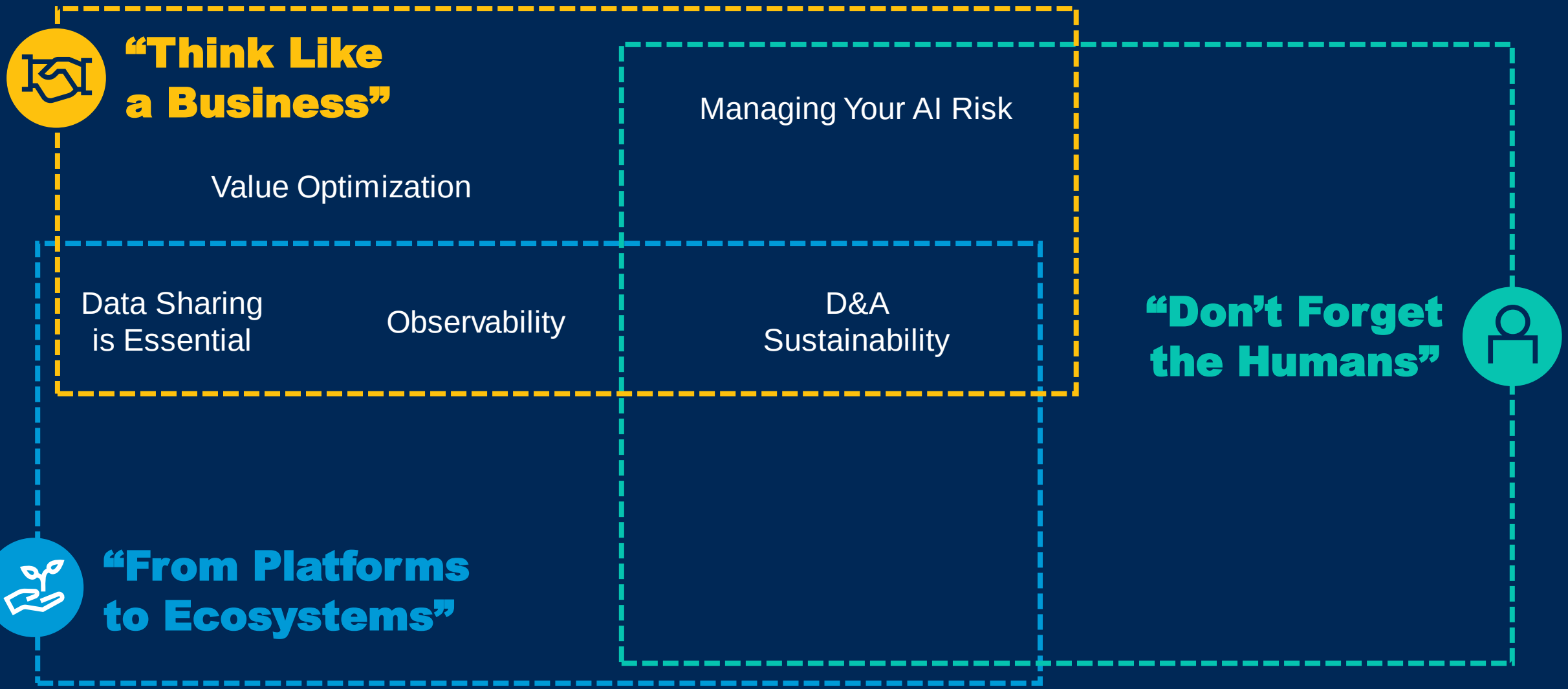

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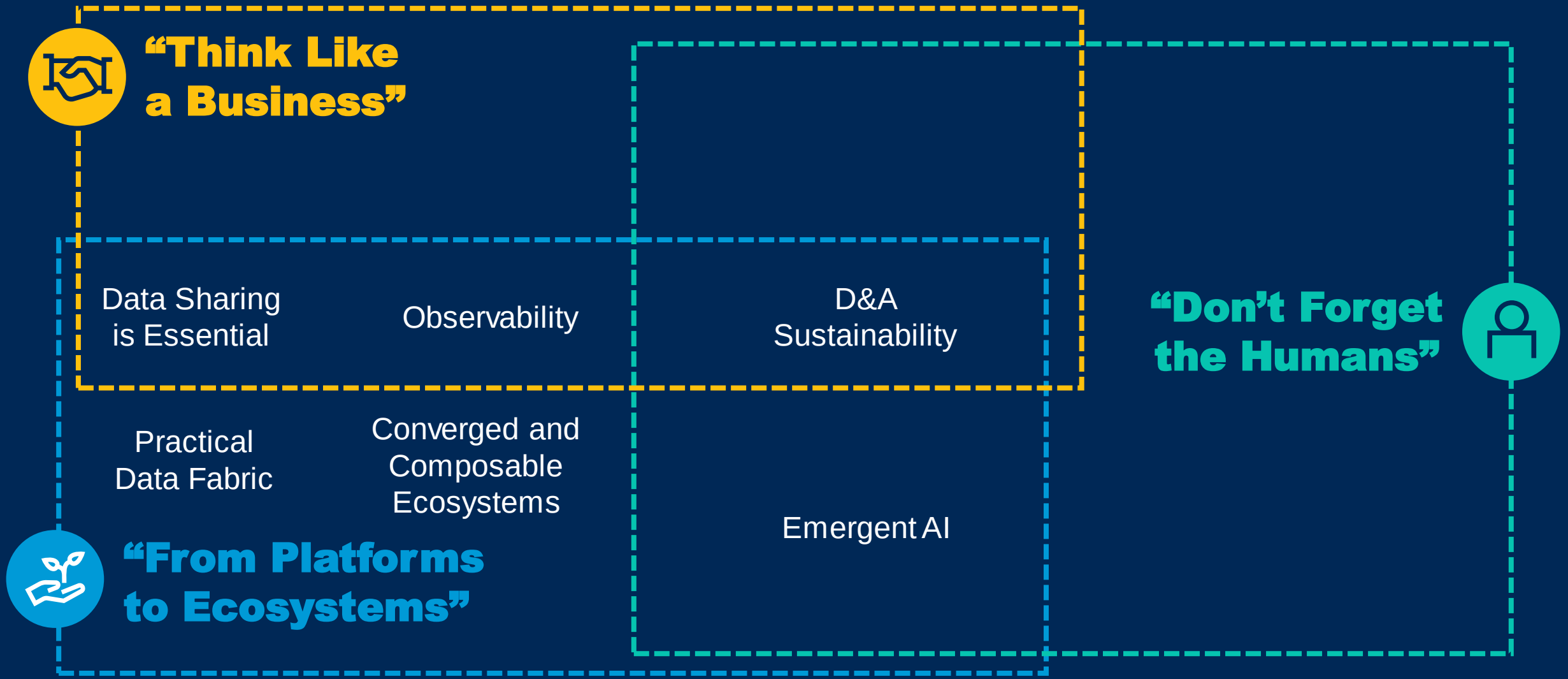

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Theme 2 — From Platforms to Ecosystems

What This Means:

D&A ecosystems recognize the connectivity of not just technical platforms, but the broader role and connectivity of D&A:

- Increasingly comprehensive and integrated end-to-end architectures make adding new capabilities less costly
- Better understanding and sharing of resources and capabilities enables greater value to be created
- Integration of D&A into the organization and societal ecosystem has broad and diverse impact

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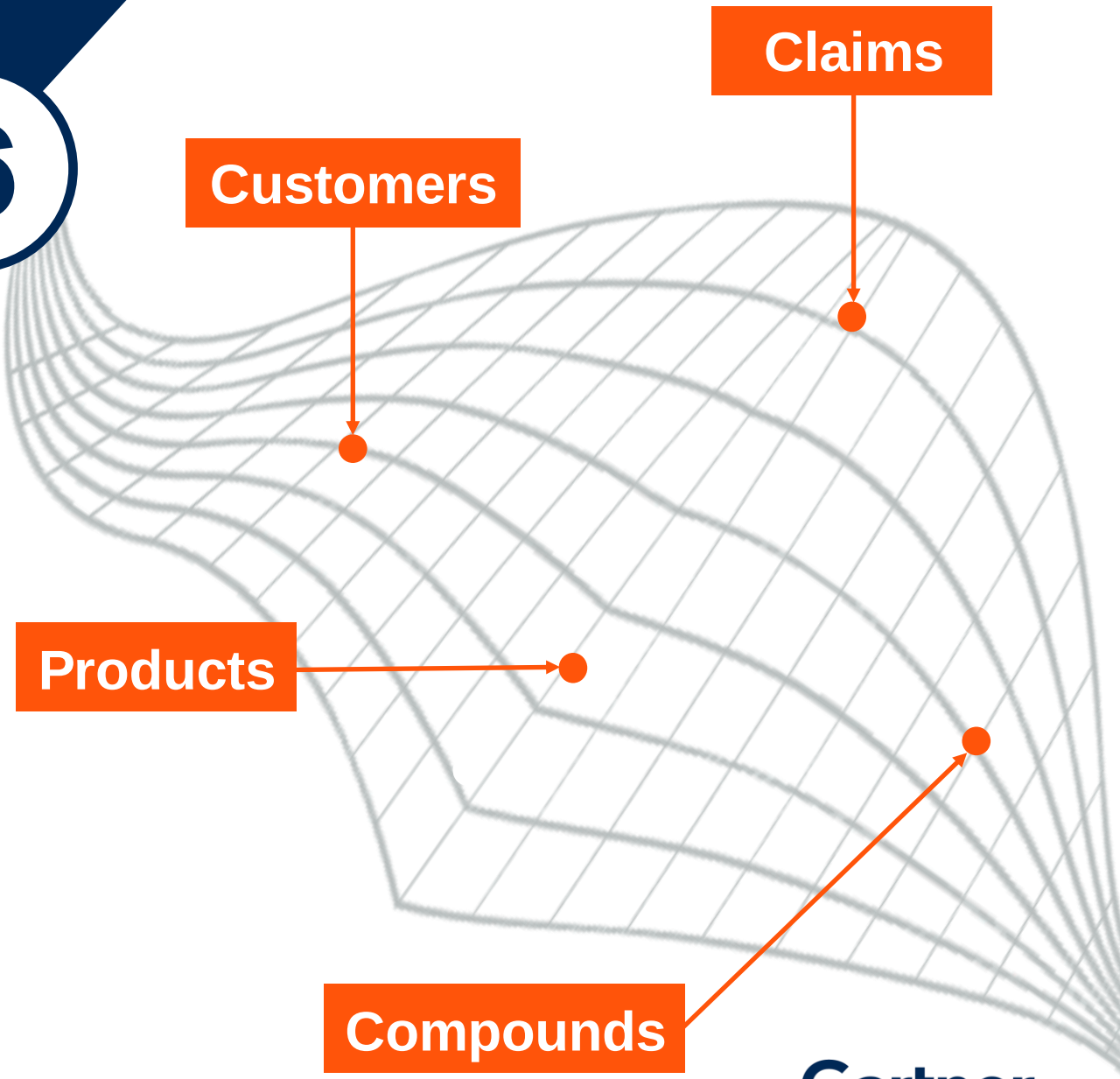
Practical Data Fabric

What You Should Do:

- Target practical data fabric opportunities by focusing on business use cases or specific types of metadata captured.
- Begin by monitoring how data is used, and leverage discovery tools to look for new and unexpected uses of data.



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Emergent AI

What You Should Do:

- (Re)assess opportunities for AI use cases, keeping in mind that emergent AI can need less data and can deal with greater complexity than before.
- As ‘AI joins the team,’ impacting roles, activities and processes, make sure that change management and HR aspects are fully addressed in AI initiatives.

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Converged and Composable Ecosystem

What You Should Do:

- Enforce your technology architecture to be modular and evolve your applications into creating building blocks.
- Leverage your existing capabilities, processes and technologies to develop a baseline and enhance them to be more modular and reusable, and provide greater agility.

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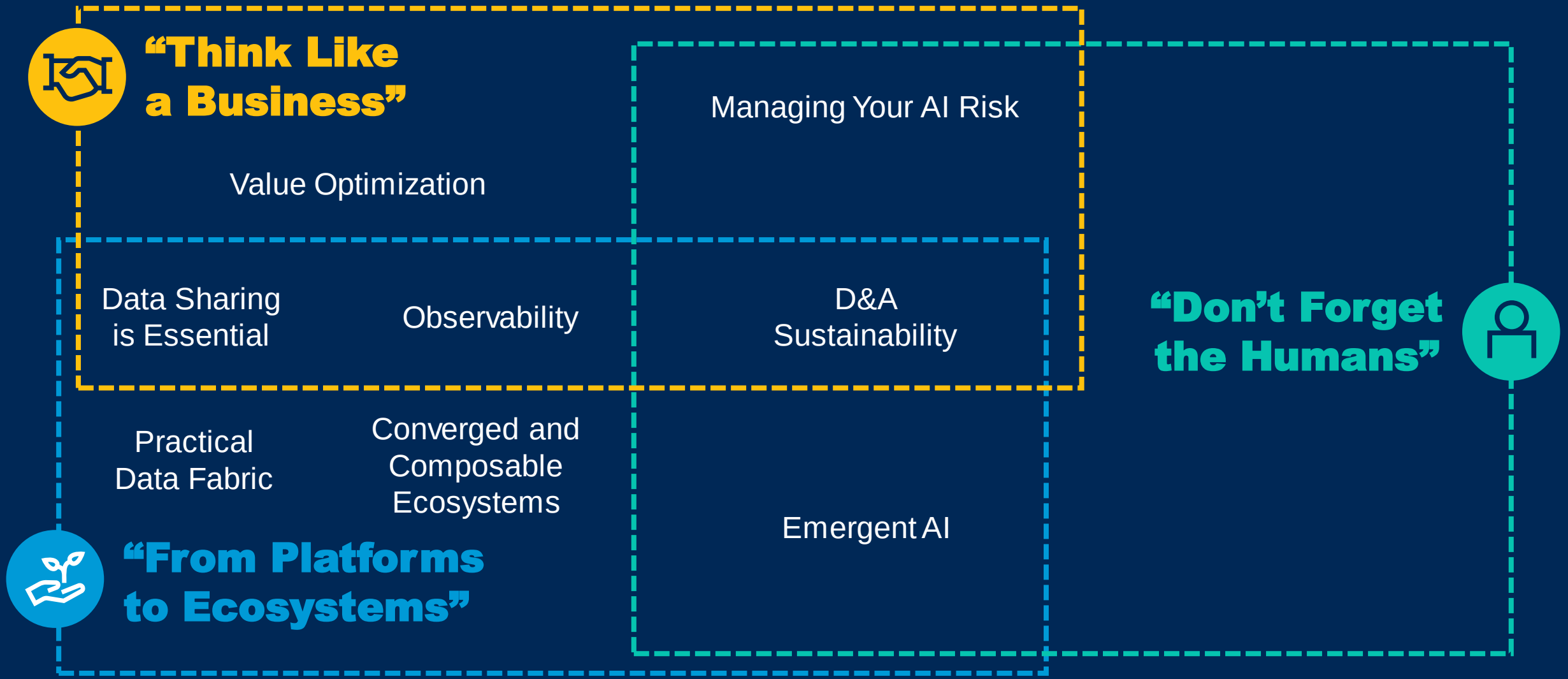

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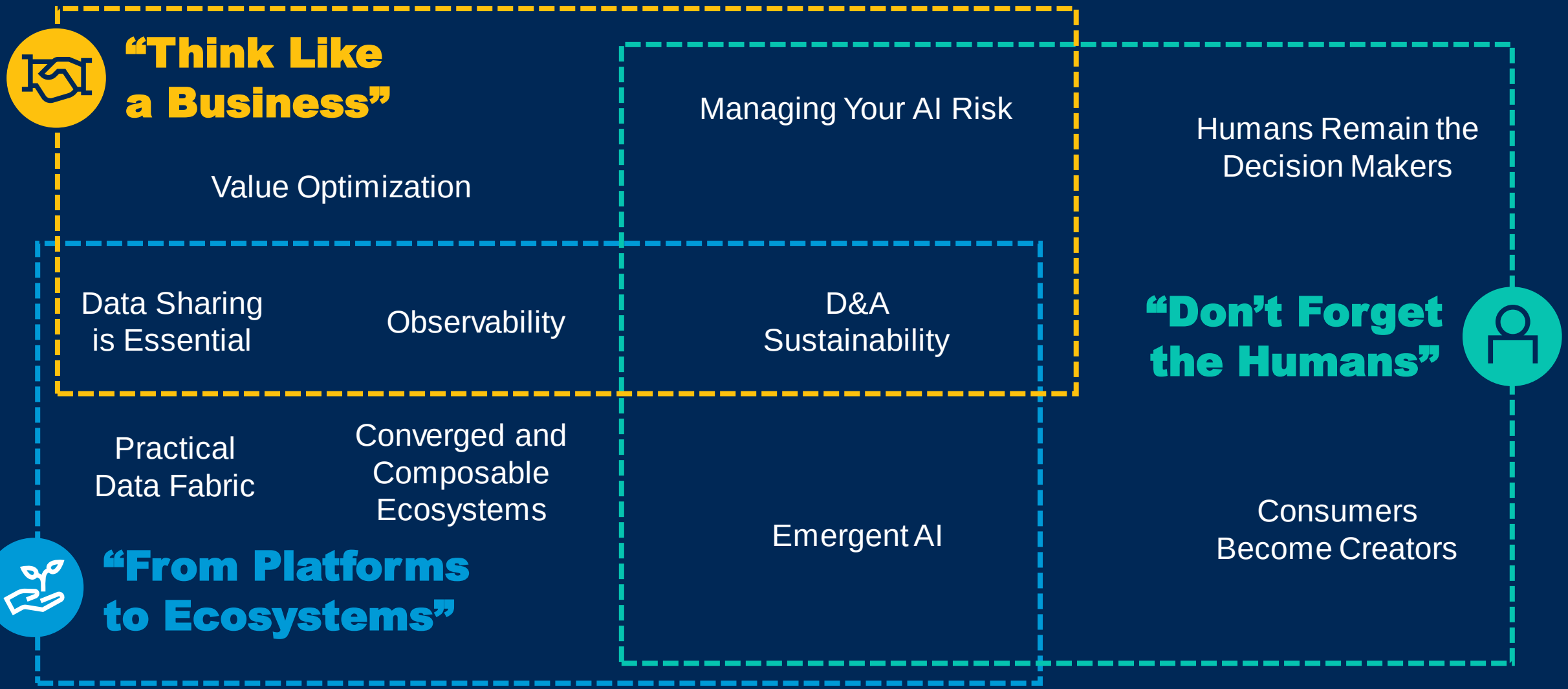

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Theme 3 — Don’t Forget the Humans

What This Means:

Data and analytics is sometimes seen as an effort to remove the human elements from decision making. A balanced view of D&A requires:

- Driving adoption of D&A by working with business users to ensure accessibility, trust and relevance to business users.
- Recognizing human involvement across the range of decision making, from decision support to decision setting the context for decision automation.
- Ensuring D&A deployments consider multiple aspects of risk.

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Consumers Become Creators

What You Should Do:

- Experiment with new augmented, conversational and embedded experiences for consumers.
- Inspire users to make the behavioral changes by making it clear what's in it for them.
- Build trust in black-box models.

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Humans Remain the Decision Makers

What You Should Do:

- Do not limit decision intelligence efforts to complex decisions that can be automated. Decision intelligence is at least as valuable to decision support use cases.
- Design data literacy programs to include education about combining data and analytics with human decision-making skills.

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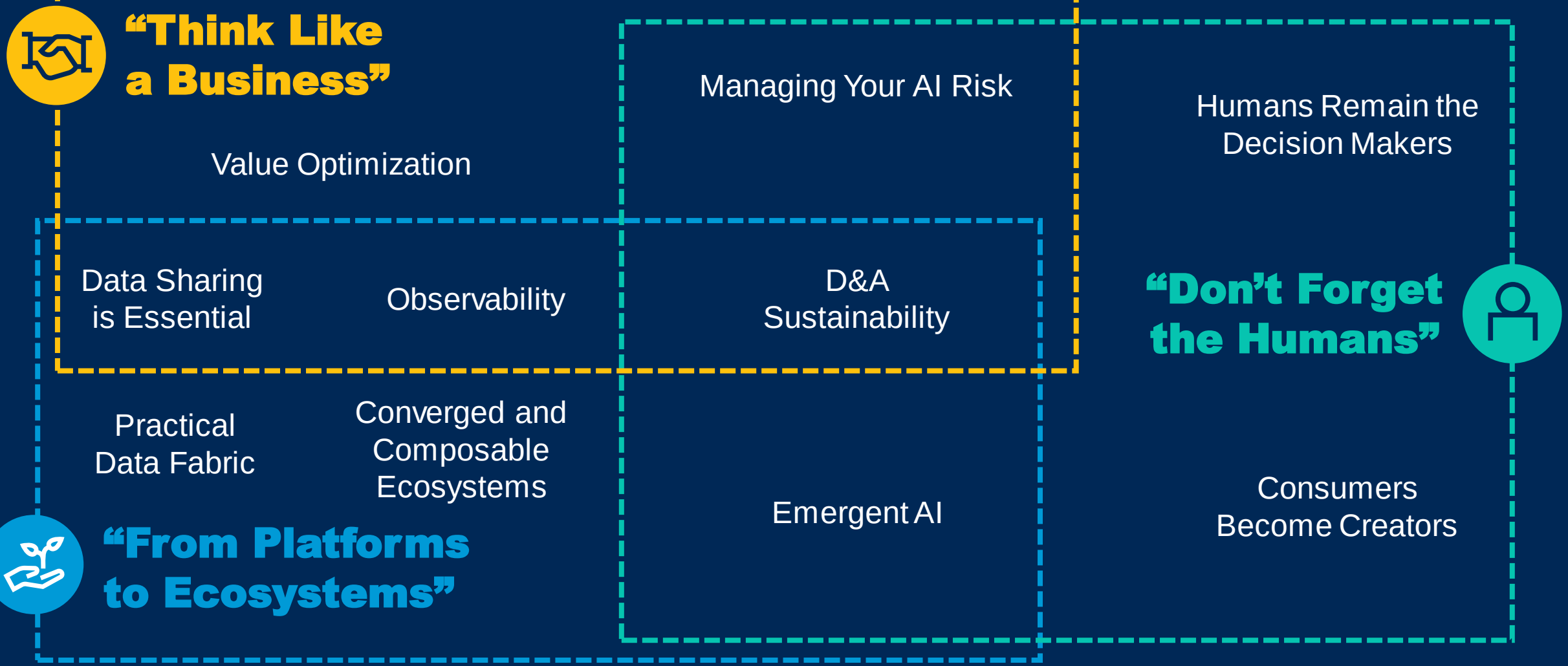

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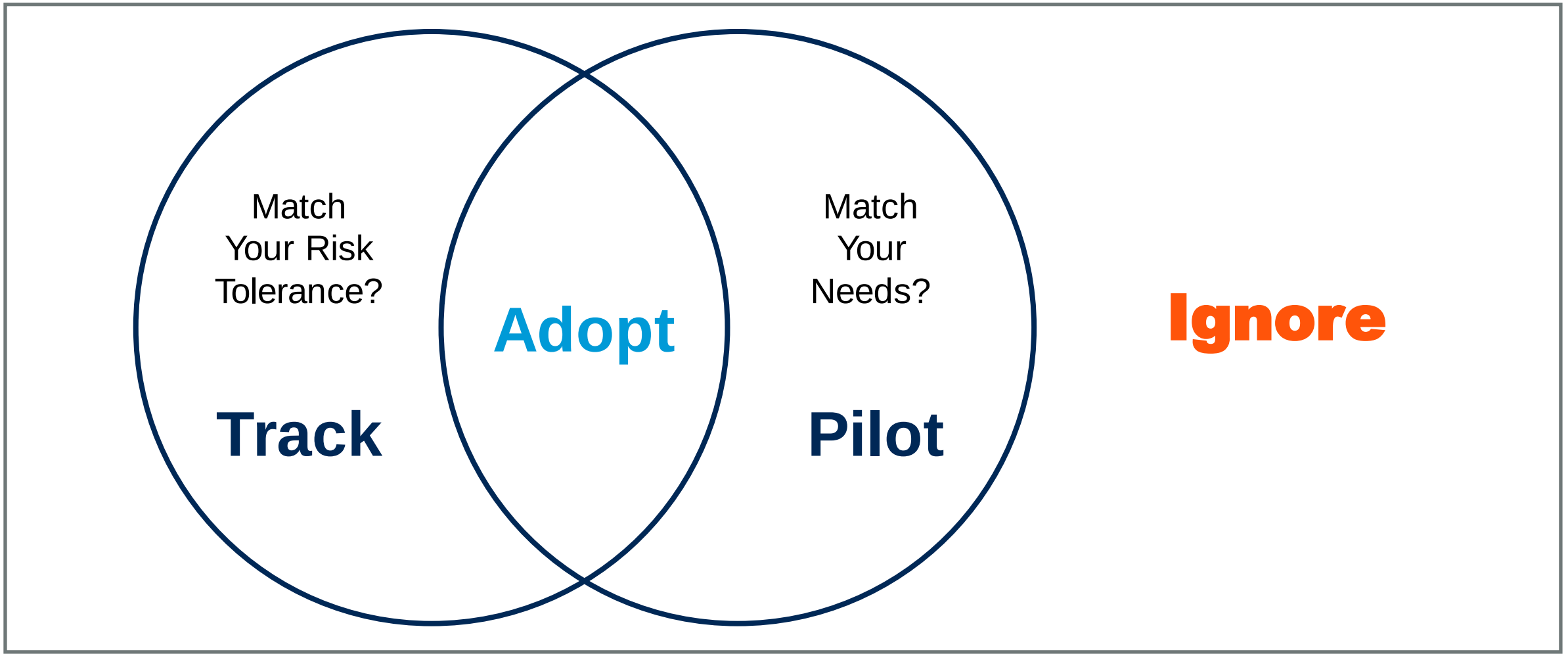
Does the Trend …



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Playing It Safe Doesn't Mean Ignoring the Trends; Doing Anything Can Be Better Than Doing Nothing

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Analysts Who Cover These Trends

- Value Optimization — Rita Sallam, Alan Duncan, David Pidsley, Andrew White
- Managing Your AI Risk — Pieter den Hamer, Svetlana Sicular, Sumit Agarwal, Avivah Litan
- Data Sharing Is Essential — Thornton Craig, Lydia Clougherty Jones, Lydia Ferguson, Andrew White
- D&A Sustainability — Pieter den Hamer, Gabriele Rigon, Erick Brethenoux
- Observability — Ramke Ramakrishnan, Ankush Jain, Sumit Pal, Jason Medd
- Practical Data Fabric — Thornton Craig, Robert Thanaraj, Mayank Talwar, Mark Beyer
- Emergent AI — Pieter den Hamer, Erick Brethenoux, Sumit Agarwal
- Converged and Composable Ecosystems — Ramke Ramakrishnan, Julian Sun, Adam Ronthal, Donald Feinberg, Carlie Idoine
- Consumers Become Creators — Rita Sallam, David Pidsley, Georgia O'Callaghan, Julian Sun
- Humans Remain the Decision Makers — Gareth Herschel, David Pidsley, Erick Brethenoux, Roy Schulte, Pieter den Hamer

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Session Recommendations

- Value Optimization
  - Rethinking Your Elusive Quest for Business Value
- Managing Your AI Risk
  - What You Need to Do About New AI Risks
- Observability
  - Data Observability: A New Trend You Need to Know for Building Reliable Data Landscapes
- Data Sharing Is Essential
  - Scale Data Reuse and Resharing for Business Value Without Perfect Trust
- D&A Sustainability
  - AI Implementation: The Path Toward Greener Future
- Practical Data Fabric
  - The Practical Data Fabric — How to Architect the Next-Generation Data Management Design
- Emergent AI
  - The Future of AI
- Converged and Composable Ecosystems
  - What to Do With Your D&A Platforms? Leverage Data and Analytics Ecosystems for Adaptability, Speed and Lower Cost
- Consumers Become Creators
  - Data Storytelling: A Better Way to Engage Decision Makers With Data
- Humans Remain the Key Decision Makers
  - Future of D&A 2025: Linking Reengineered Decisions to Business Value

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Appendix

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Value Optimization

1

What This Is:

- Value optimization from an organization's data, analytics and AI portfolio requires an integrated set of value-engineering competencies including value storytelling, value stream analysis, ranking and prioritizing investments, and measuring business outcomes to ensure expected value is realized.

Why This Is Important:

- Business and technology leaders are under intense pressure to demonstrate the value of their initiatives.
- A belief case is no longer enough.
- Most D&A leaders struggle to articulate their value in business terms.
- D&A is increasingly distributed with significant benefits to business domains, but alignment and collaboration with D&A teams is needed to realize that value.
- Focusing solely on ROI can lead to misallocation of resources.

What You Should Do:

- Create a clear link between D&A initiatives and business value.
- Build a value stream management competency.
- Optimize resource allocation decisions by creating a consistent approach to scoring investment options.
- Establish value councils and embed value engineers in decentralized, cross-functional product and fusion teams.

Recommended Reading: How to Optimize Enterprise Value From Data and Analytics (G00777180)

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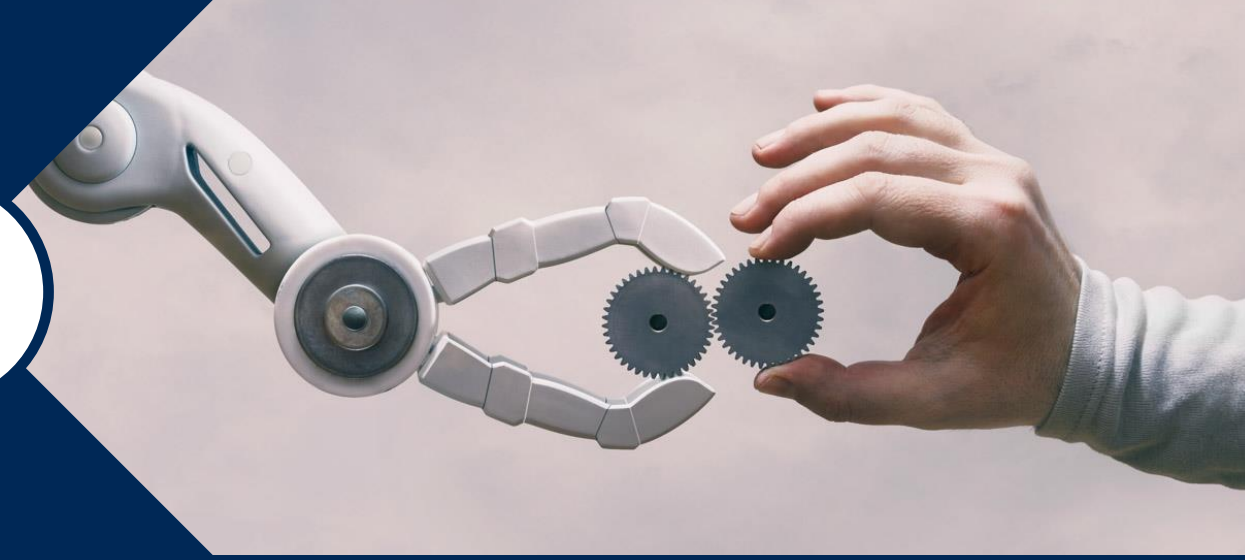
Managing Your AI Risk



What This Is:

- With the growing use of AI, new risks are emerging that require mitigation. These risks relate to fairness, trust, privacy, as well as safety, security, sustainability, finance and corporate reputation.

Why This Is Important:

- Growing regulatory pressure demands the responsible and ethical use of AI, in particular bias mitigation and privacy protection.
- AI is getting ever more business critical, requiring the reliability, transparency and security of AI.
- Managing AI risks is essential to build trust among stakeholders and to catalyze the use and adoption of AI.

What You Should Do:

- Manage AI risks, including regulatory compliance, through adaptive governance based on a clear set of principles and practical guidelines.
- Create awareness and build skills for effective AI risk management, supported by technology for e.g., model monitoring, fairness and privacy enhancement.
- Establish an AI governance/ethics board to provide guidance, monitor AI activities and resolve issues.

Recommended Reading: A Comprehensive Guide to Responsible AI (G00764905)

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Observability

3

Big Brother
Is Watching You and He's Bored

What This Is:

- Observability allows a system's behavior to be understood based on its outputs and enables questions about their behavior to be answered.

Why This Is Important:

- Effective cost management on cloud analytics deployments requires data observability in the capacity-planning processes, tracking resource utilization to align with business growth targets and improve performance.

What You Should Do:

- Understand current state based on the movement, access and utilization of data so that you can proactively learn, understand and visualize predicated outcomes and be proactive in operating them efficiently and at reduced costs.

Recommended Reading: Quick Answer: What Is Data Observability? (G00759849)

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4

Data Sharing Is Essential

What This Is:

- Data sharing includes sharing data both internally (between or among departments or across subsidiaries) and externally (between or among parties outside the ownership and control of your organization).

Why This Is Important:

- Invaluable data sharing focuses on prioritizing critical data assets to be prepared and delivered as data products, accelerating business value of data sharing capabilities.
- Data sharing collaborations, including those external to your organization, increase data sharing value by adding reusable, previously created data assets.

What You Should Do:

- Consider adopting data fabric design to enable a single architecture for data sharing.
- Establish trust in data through automated mechanisms and metrics from active metadata insights, augmented data catalogs and automated data quality metrics.

Recommended Reading: How CDAOs Need to Prioritize Data Sharing Investments for Digital Business Success (G00774089)

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D&A Sustainability

What This Is:

- The potential of D&A and AI to provide insights for ESG and to optimize processes for sustainability improvement is enormous.
- On the other hand, D&A and AI are increasingly hungry for data storage & compute resources and consequently, electricity and energy, resulting in concerns about their own growing carbon footprint.

Why This Is Important:

- Organizations cannot permit themselves to ignore the power of AI to address critical sustainability challenges.
- D&A and AI practitioners are beginning to become more aware of their growing energy usage. In response, practices are emerging to prioritize the use of renewable energy by (cloud) data centers, use more energy efficient hardware, and to apply small data and other machine learning innovations.

What You Should Do:

- Prioritize and proactively start D&A and AI initiatives that aim to optimize operations to boost sustainability and to meet ESG goals.
- Raise awareness in D&A and AI teams about both their own impact on sustainability. Foster the use of observability to monitor energy consumption and adopt emerging practices to improve energy efficiency.

Recommended Reading: Infographic: AI Use-Case Prism for Sustainability and ESG (G00773442)

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Practical Data Fabric

What This Is:

- Data fabric is a data management design pattern leveraging all types of metadata to observe, analyze and recommend data pipeline actions.

Why This Is Important:

- Metadata analysis can expose hidden insights into business demand, metadata sharing can speed up integration and decision making, and metadata can reinvent governance and reduce risk.
- Metadata analysis improves data pipeline management and automation (DataOps).

What You Should Do:

- Target practical data fabric opportunities by focusing on business use cases or specific types of metadata captured.
- Begin by monitoring how data is used, and leverage discovery tools to look for new and unexpected uses of data.

Recommended Reading: Quick Answer: 5 Ways Data Fabric Design Supports Cost Optimization in Data Management (G00777199)

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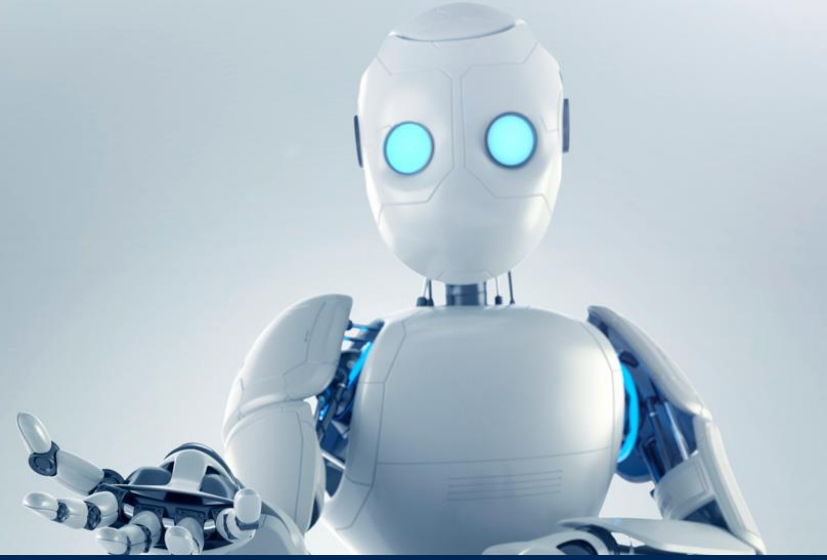
Emergent AI



What This Is:

- This trend relates to a next wave of AI, enabled by emerging topics such as generative AI (including ChatGPT, Bard and others), decision intelligence, graph technology, simulations & AI, composite AI, synthetic data and AI engineering.
- Their common denominator is to bring AI to the next level in terms of scalability, versatility and adaptability.

Why This Is Important:

- Emergent AI enables organizations to apply AI in situations where it is not feasible today, making AI ever more pervasive and valuable.
- AI continues to evolve from an uncertain experiment to a more robust engineering discipline.
- AI will greatly impact how people work, augmented by AI, as part of a larger movement toward autonomous business.

What You Should Do:

- (Re)assess opportunities for AI use cases, keeping in mind that emergent AI can do with less data and can deal with greater complexity than before.
- Start adopting AI engineering practices, combined with data and software engineering, AI governance and responsible AI.
- As 'AI joins the team,' impacting roles, activities and processes, make sure that change management and HR aspects are fully addressed in AI initiatives.

Recommended Reading: Building a Digital Future: Emergent AI Trends (G00761113)

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Converged and Composable Ecosystem

What This Is:

- Converged and composable ecosystems of D&A services are about designing and deploying the D&A platform to operate and function cohesively (convergence) through seamless integrations, governance and technical interoperable of various components, further assembling and deploying them effortlessly as configurable applications and services (composable). Further, this allows the D&A systems to be more modular, adaptable and flexible to scale dynamically, and become more streamlined to continuously meet the growing and changing business needs.

Why This Is Important:

- The degree of composability and convergence of technology components will become a major differentiation for organizations when assessing analytics or deploying analytics applications as they will enable business to be proactive, build, deploy and adapt to change quicker than ever before.
- D&A ecosystems should have building blocks to compose and recompose with convergence for fast delivery of analytics applications in a composable enterprise. These building blocks should facilitate organizations to build their application with business-centric modularity, enabling a top-down design with value streams of the organizations.
- Increasing complexity, cost and effort of managing complex data and analytics platforms propel a need to simplify the architecture and components and move toward to revived approach for cohesive D&A ecosystem through consolidation and modular deployment.

What You Should Do:

- Deliver a flexible and scalable D&A ecosystem that allows easier integration of different technology components to adapt faster changes and business growth with increased efficiency.
- Operationalize your D&A platforms to eliminate complexity by providing simple and unified access and management, improve efficiency and agility through interoperability, and quicker deployment of new services to the customers.
- Enforce your technology architecture or adopt your vendor-based solution architecture to be modular and evolve your application into creating building blocks that can deliver capabilities to drive specific business outcomes and are well connected by APIs and services to support broader enterprise needs.
- Leverage your existing inventory of capabilities, processes and technologies to develop a baseline and enhance them to be more modular and reusable, and provide greater agility in support of new business needs at reduced costs.

Recommended Reading: Case Study: Composable Platform Strategy to Drive Business Agility (Nike) (G00766602)

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9 Consumers Become Creators

What This Is:

- To expand adoption and impact from analytics, organizations must widen their focus from enabling analysts to giving content consumers the automated and embedded insights and conversational experiences they need to become content creators.

Why This Is Important:

- Despite massive investment in self-service, overall adoption still hovers around 30%.
- Convergence of analytics and BI and data science, machine learning, natural language processing, and generative AI capabilities are transforming how content builders and consumers interact with data.
- Embedding of autogenerated insights into applications is needed for business and operational workers that don't traditionally use analytics platforms.

What You Should Do:

- Put more of an architectural focus on the consumer role.
- Experiment with new augmented, conversational and embedded experiences for consumers.
- Inspire users to make the behavioral changes by making it clear what's in it for them.
- Invest more in data literacy and training, not less.
- Focus on building trust and explainability.

Recommended Reading: Market Guide for Augmented Analytics (G00755258)

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10 Humans Remain the Decision Makers

What This Is:

- Not every decision can or should be automated. Data and analytics groups are explicitly addressing decision support and the human role in automated and augmented decisions.

Why This Is Important:

- Decision support is the most common use case for D&A, but because D&A is optional to the process the burden for adoption falls on the D&A team.
- Efforts to drive decision automation without considering the human role in decisions will result in a data-driven organization without conscience or consistent purpose.

What You Should Do:

- Do not limit decision intelligence efforts to complex decisions that can be automated. Decision intelligence is at least as valuable to decision support use cases.
- Design data literacy programs to include education about combining data and analytics with human decision-making skills.

Recommended Reading: Innovation Insight for Decision Intelligence (G00755496)

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