WHITEPAPER

Data strategy for Enterprises of 2030

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Context

In today's dynamic business environment, enterprises are engaged in an ongoing journey of digital transformation and optimization influenced by a convergence of powerful factors, including data, cloud computing, digital channels, artificial intelligence (AI), and the rise of Generative AI (Gen AI). These elements present unprecedented opportunities for innovation across various dimensions such as, new products and services, operational efficiencies, enhanced customer lifecycle management, and improved risk management.

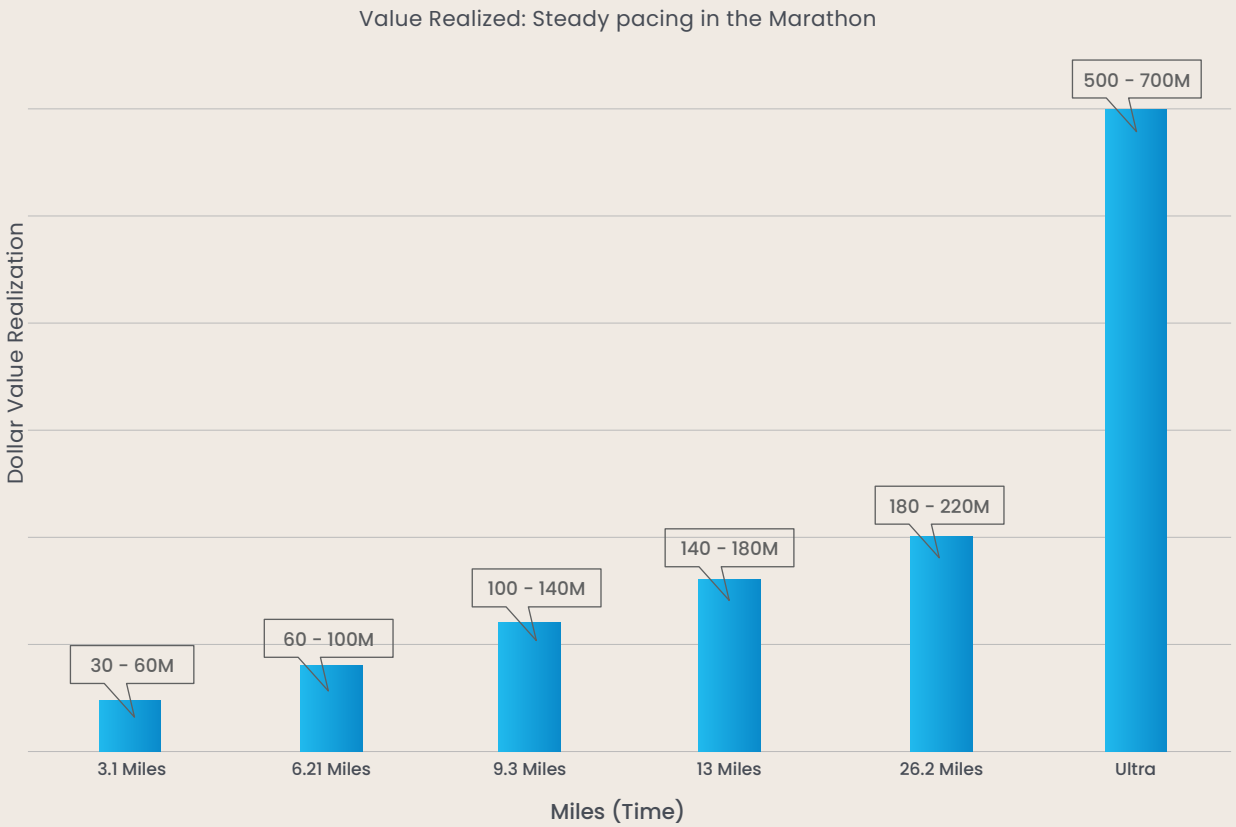
However, this journey is not without its challenges. Enterprises often find themselves grappling with the burden of existing technology debt, which impedes progress, escalating costs to sustain and innovate. The emergence of new roles (CDO, CDAO) along with existing roles (CIO, CTO) are all attempting to power enterprises to realize the full potential of available opportunities but are not always well-coordinated in conjunction with business units across the enterprises. This lack of cohesion can lead to missed opportunities, elevated total costs, delayed realization of value, and compliance issues.

To navigate this complex landscape successfully, enterprises must develop a comprehensive and unified data strategy that spans business and technology units and resonates with leaders at all levels. Such a strategy should be designed to unlock value across multiple dimensions, including increased revenue, reduced costs, accelerated operations, scalability, versus enhanced customer experiences. Additionally, the strategy should empower organizations to work autonomously, fostering agility and adaptability, enabling both innovation and scalability.

Here's what you may be losing out on

A billion dollars of value realization across all business functions such as sales, supply chain, finance, HR, Operations - fostering increased revenue, reduced costs, accelerated operations and scalability, and enhanced customer experiences a well-coordinated strategy across all the CXO offices

Illustration: Value realization for a company of revenue size of 10B to 30B - running a marathon.



Digital Investment themes

- Process/workflow digitization
- Cross-business collaboration
- Data foundation and sharing
- Scalable industrial analytics

Vision realization factors

- Organizational strategy
- Value driven focus
- Data culture and literacy
- Scalability and automation

Outsized impact: Sales Enablement | RGM | Digital Supply Chain | Manufacturing | Intelligent Sourcing | HR

Despite the daunting nature of this transformational journey, it is imperative for enterprises to take decisive action promptly. Embracing this exciting wave of change is essential for staying relevant, maintaining competitiveness, and leading in today's rapidly evolving business landscape. As AI adoption spreads across the enterprises, a coherent data strategy is existential to ensure enterprises are realizing value that's sustainable.

Data strategy – What does it mean

The strategy broadly needs to address the following foundational pillars aligned with building a connected data and decisions systems foundation that will drive innovation at scale and industrialization at scale. The pillars must be realized iteratively along with business use cases aka decision backwards to drive value realization in an iterative manner.

Deliver Data at Speed : "Platform economies and Productized thinking

"Data platform as a product"

The process of managing all data types (including multi-modal data), from initial sourcing to the creation of data products ready for enterprise use, should be centred around composable and reusable services/Gen AI agents. This facilitates rapid data onboarding and expedites the utilization of data throughout the organization. The services for data ingestion, integration, and harmonization should be designed to handle diverse data types, large volumes, and high velocities, in a metadata driven way, that are composable and promote autonomous DataOps across the entire enterprise. The architecture and design should revolve around an Integrated Data Platform as a product, with provision for extensibility and scalability to accommodate both new and existing services/ Gen AI agents, encompassing cloud agnostic and cloud native paradigms, addressing the entire spectrum of Data Engineering, AI Engineering, and Gen AI Engineering.

Data as a strategic asset, Metadata as a product – Data Governance, democratization and Data Culture

Data assets should be productified

Data assets should undergo a transformation akin to the treatment of an enterprise's products and services. Within each domain, there should be a clear definition of ownership and management responsibilities for every data product. This approach ensures accountability for maintaining catalog, data quality and lineage, and in enabling data consumption that aligns with various analytics requirements, as well as considerations for privacy, security, and regulatory compliance, which are essential for BI, AI, and Gen AI paradigms.

Furthermore, the management of metadata and data should be intertwined when handling data products. This integration offers a seamless and intuitive experience for searching and discovering data, augmented by a social context that fuels creativity and opens countless possibilities. Think of it as creating a digital data storefront or marketplace, akin to the user-friendly experience one encounters on platforms like Netflix but tailored specifically for data products. DataOps across the entire enterprise.

Platform engineering with DevSecOps to drive reliable and cost-efficient data and digital estates.

As the computing and storage demands continue to grow in complexity within the realms of Data, AI, and Gen AI paradigms, platform engineering must prioritize the creation of developer platforms designed to automate Continuous Integration and Continuous Deployment (CI/CD) processes across all layers of the technology stack. This includes infrastructure, platform services, ETL (Extract, Transform, Load) processes, Business Intelligence, AI/MLOps/LLMOps, digital applications, and Gen AI applications. These developer platforms should incorporate 'shift left' principles, emphasizing early consideration and integration of Engineering Quality, Security, Testing, and deployment practices. Additionally, they should embrace Site Reliability Engineering (SRE) and FinOps principles to construct and manage cost-efficient and dependable data and digital infrastructure.

Decision intelligence systems – business process augmentation and automation

The enterprises must re-imagine the business processes for decisioning bringing Digital, Data and Intelligence together and drive augmented and automated decisioning life cycles moving away from highly manual ways of connecting BI/AI/Gen AI insights with changing data signals and monitoring / reconfiguring decisions. The advent of Gen AI has fundamentally altered the business processes powering re-imagination in unprecedented ways. This will drive a whole new paradigm of exponential business impact leveraging multi-modal data across the enterprise functions. The Decision engine frameworks have to span workflow orchestration, micro services, micro-front ends, API gateways and conversational frameworks enabling a whole range of digital experiences.

Digital Ops

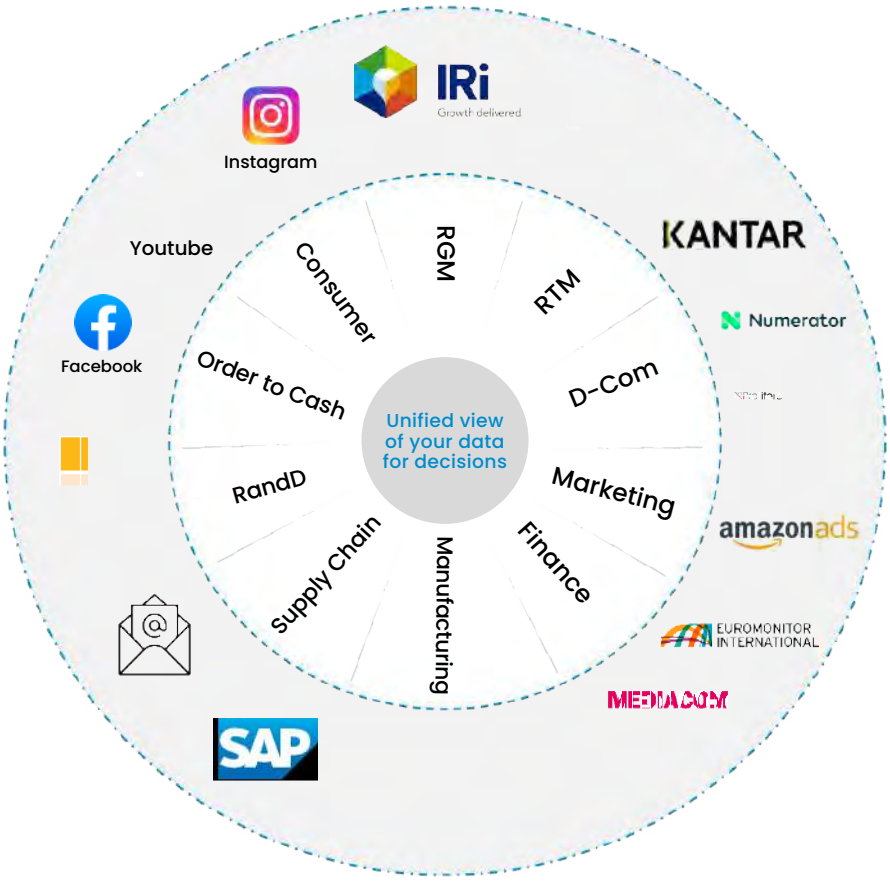
The enterprises need to bring in a seamless management of Ops from business outcomes through Infra with well-defined SLAs. The Ops function must bring in reliability for ensuring business ops 24x7. Ops functions should bring in integrated view for any given data product from consumption layer all the way till the infra layer. The Ops team should have teams with cross-functional skills and address diagnosis and resolution in an accelerated manner without hand-offs across various layers of the estate. The Ops teams should drive automation, work on enhancing stability and bring in enhancements as needed to cut down the cost of operations on an on-going basis.

The emerging paradigm of continuous intelligence is critical to help organizations mine the connected data signals to help open up new possibilities for impactful business outcomes.

Illustration : Connected Data and Decisions Ecosystem to drive Autonomous and Intelligent enterprise for impactful outcomes – Speed | Scale | Cost | Value

Pivoting to Platform economies with Foundational pillars augmented by Gen AI capabilities

Decision Systems	• Data products. • Decision support, decision augmentation, and decision automation. • Business process re-engineering.	• Gen AI business apps, bots. • APIs and microservices.
Enterprise Ops	• DevSecOps across the entire data estate - Infra, platform, tools, ETL, models, reporting, digital apps • Design for reliability - SRE	• LLMOps.
Data Governance Data as a Product	• Federated data catalog, lineage, data quality, data privacy and security. • Compliance with regulation. • Data democratization, marketplaces.	• Prompt library, Prompt injection. • Data attestation for Gen AI. • Gen AI metrics – toxicity, etc. • Semantic search.
Data Platform as a Product	• Data platform–as–a–Product (Composable data services) lakehouses, warehouses. • Unified semantic model, feature stores.	• Prompt lab, prompt templates, chunking and embedding, agent services. • Vector data stores, unstructured data stores.



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How do enterprises realize this journey

The approach should be well calibrated to continually drive value across Business and Technology operations helping enterprises address current needs while establishing new capabilities taking all the CXO offices along in this exciting journey:

Maturity assessment and Partnership ways of working

The journey across the various parts of the organization will have to be nuanced to augment/replace/retire as needed making sure the existing investments are well leveraged. The capabilities need to be baselined across various teams and the new capabilities need to be planned and executed for each team in close coordination with them with a clear line of sight to continuous value.

Enterprise Capabilities COE

A central team with a broader enterprise blueprint which continuously establishes and baselines capabilities as composable and reusable services that could be federated across the enterprise is foundational to realize the journey. This is a critical intervention to ensure all the capabilities are well architected and are “Built for enterprise”, “Built to scale” and “Built to Operationalize”. The COE also needs to have a R and D function to continuously keep pace with industry developments (Digital twins, Metaverse, Gen AI business apps etc), evaluate, build POCs and enable adoption of new capabilities through strategic use cases measured by realized value. The COE needs to optimize/retire tech debts on a continuous basis.

Governance

A 2-tier governance council needs to be established comprising a strategic layer and execution layer to measure ROI on an on-going basis.

The strategic layer needs to bring in executive sponsorship from the CXO offices across Business, Tech and Operations to drive advocacy and measure outcomes across all parts of the enterprise.

The execution layer needs to have a pod structure comprising leadership teams across business, Tech and Ops for each of the domains and they need to have defined metrics to measure ways of working and adoption to establish the culture of managing to a strategic direction while addressing the respective needs.

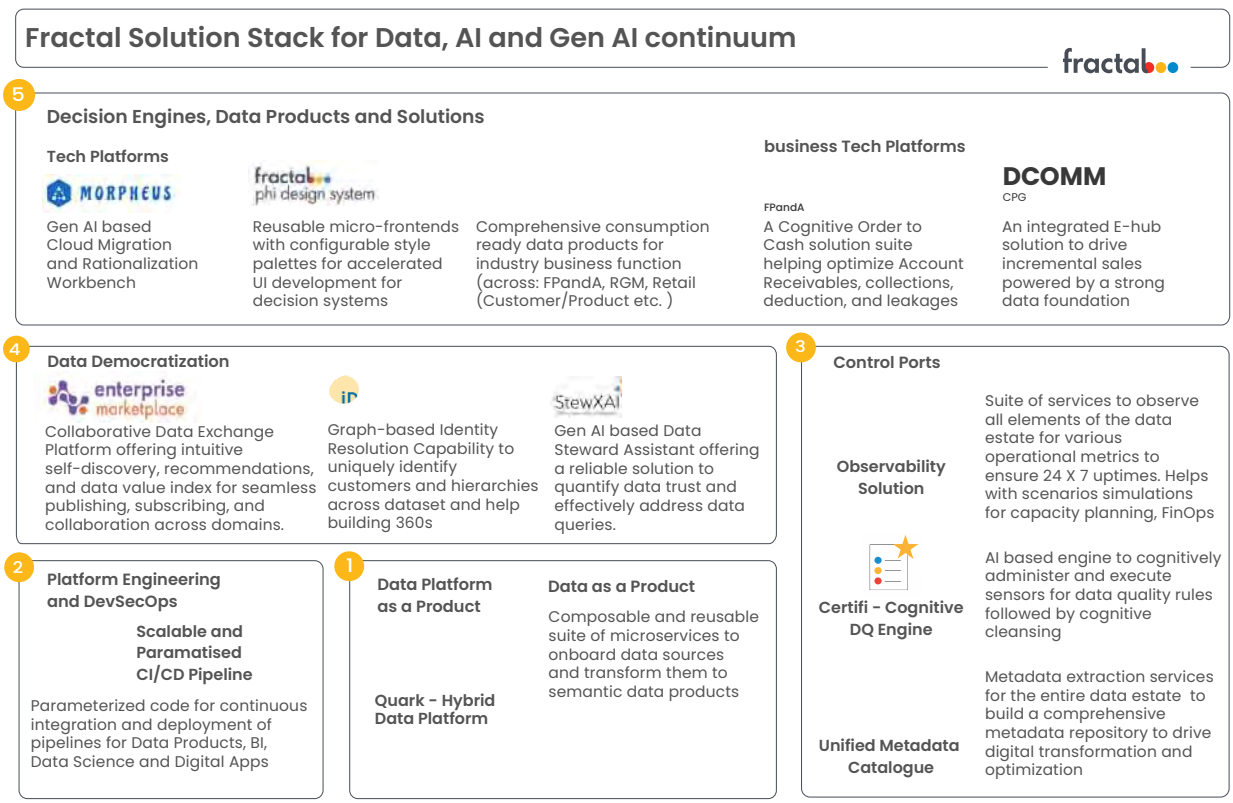
The value realization across Innovation, Revenue, Cost, Speed, Scale, Compliance needs to be continuously measured through a well-defined charter for each of the change management initiatives.

How can Fractal Partner?

Fractal has been partnering with enterprises across the various industries to realize the vision of driving continuous cycles of Digital transformation and Digital optimization. Our mission is to power every human decision in the enterprise by bringing together AI, domain, engineering and design. Our decision backwards philosophy focused on user centricity and adoption coupled with tried and tested frameworks have enabled organizations to drive successful journeys from assessment through value realization.

- Maturity assessment in relation to the Business Vision
- Blue printing the capabilities
- Execution roadmap with estimated value realization
- Iterative execution – Retiring technical debt and commission of new capabilities.
- Establish and Operate Capabilities COE
- Governance of Critical Success factors

We combine exceptional talent, extensive industry knowledge, business-technology consulting, accelerators and solutions, platform, and product partnerships to enable enterprises to realize their vision in an iterative manner.



A few examples

For a leading global re-insurer, we built a **"Data platform as a Product"** enabling external data from 1000+ API's supporting 20+ risk pools thus creating "Data as a Service" marketplace to drive their risk capital allocation and pricing processes for all the global markets.

For a leading Life Sciences firm, we are establishing a Data Governance framework and implementing the same for their Supply chain business. We have built a marketplace solution to enable data democratization for their commercial function

For a leading telco, we created the core **Data and AI industrialization** services to enable DataOps and MLOps for their entire data eco-system to drive innovation and industrialization at scale.

For a leading Financial services provider, advising and defining their data strategy; their cloud journey, designing their data models to create data products for the commercial banking divisions that serve as the basis for all their analytical needs

For a leading CPG giant, we built a **Direct2Consumer** platform to enable data onboarding across 70+ countries and 100+ brands to drive autonomous ways of provisioning data for various insights and analytics needs to drive Customer life cycle - Acquisition, Development, Retention

For a leading APAC based Telco, we are migrating from Legacy Teradata warehouses to Cloud leveraging Morpheus, our Gen AI based Cloud Migration Work bench supporting the entire migration life cycle: Assessment (Discovery, Inventory Collection and Analysis, Planning, Migration (workload migration and rationalization), Assurance, Operationalization.

Author

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About Fractal

Fractal is one of the most prominent providers of Artificial Intelligence to Fortune 500® companies. Fractal's vision is to power every human decision in the enterprise, and bring AI, engineering, and design to help the world's most admired companies.

Fractal's businesses include Crux Intelligence (AI driven business intelligence), Eugenie.ai (AI for sustainability), Asper.ai (AI for revenue growth management) and Senseforth.ai (conversational AI for sales and customer service). Fractal incubated Qure.ai, a leading player in healthcare AI for detecting Tuberculosis and Lung cancer.

Fractal currently has 4400+ employees across 16 global locations, including the United States, a UK, Ukraine, India, Singapore, and Australia. Fractal has been recognized as 'Great Workplace' and 'India's Best Workplaces for Women' in the top 100 (large) category by The Great Place to Work® Institute; featured as a leader in Customer Analytics Service Providers Wave™ 2021, Computer Vision Consultancies Wave™ 2020 and Specialized Insights Service Providers Wave™ 2020 by Forrester Research Inc., a leader in Analytics and AI Services Specialists Peak Matrix 2022 by Everest Group and recognized as an 'Honorable Vendor' in 2022 Magic Quadrant™ for data and analytics by Gartner Inc.

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