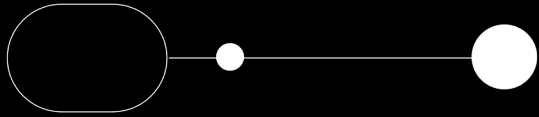# Data Ecosystem Readiness for AI

Wie bereiten Sie Ihre Datenlandschaft optimal auf AI vor?

Andreas Odenkirchen
Dr. Matthias Schlemmer
Eileen Dahlen

pwc

strategy&
Part of the PwC network

With you today

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Dr. Matthias
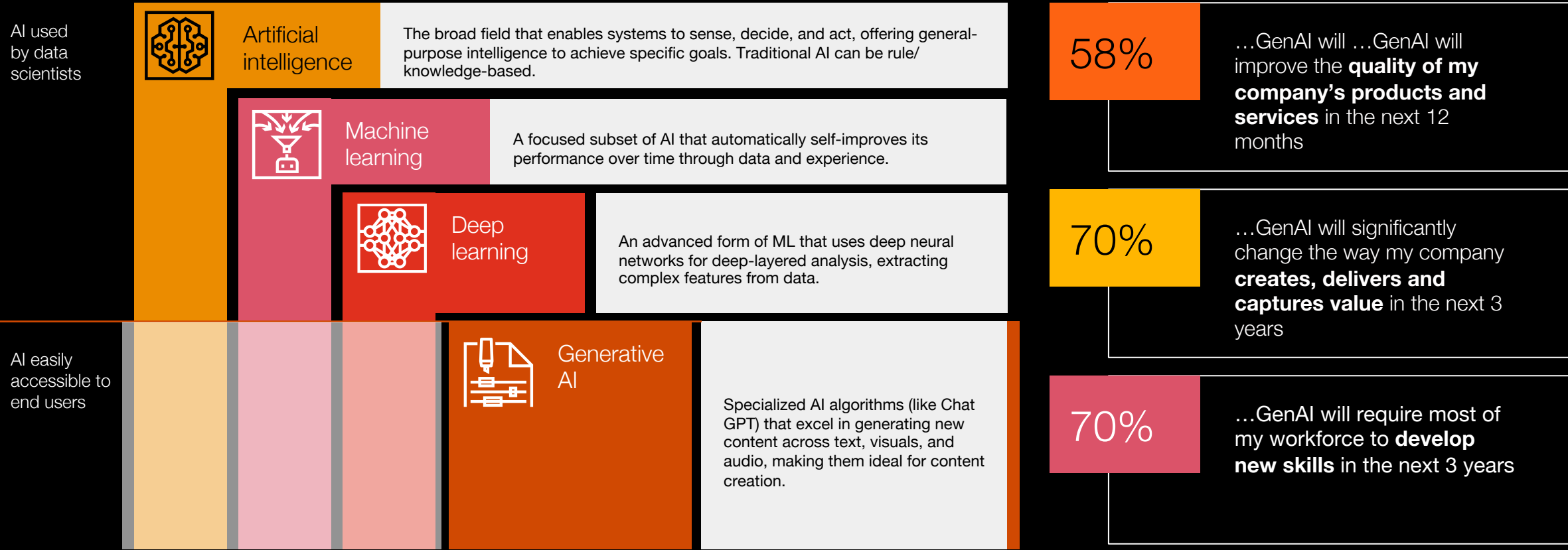Schlemmer

Partner

Andreas
Odenkirchen

Director

Eileen
Dahlen

Senior Manager

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Situation: The GenAI hype pushed AI to the CEO agenda, putting pressure on the CIO/CDO to "make it happen"

…of CEO's say that…
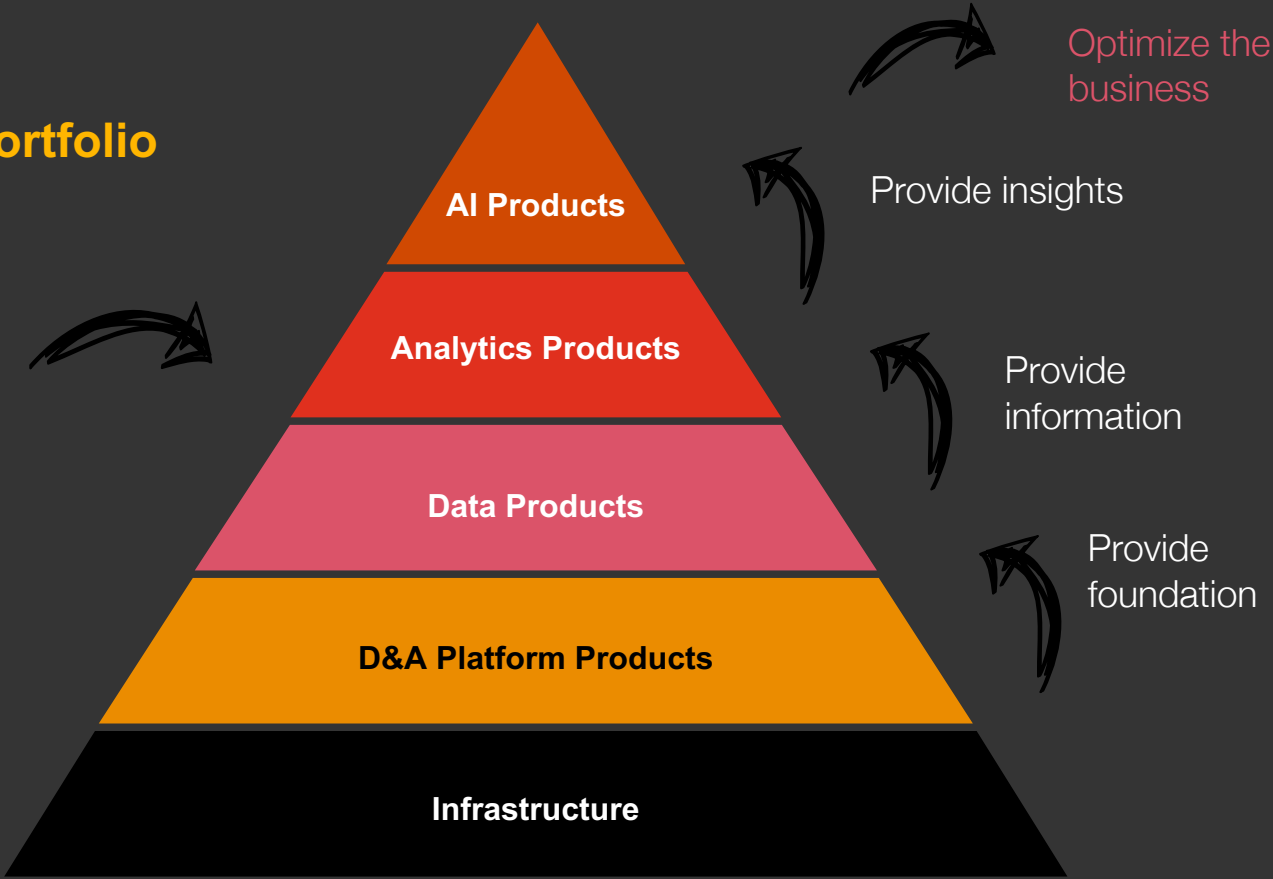
AI used by data scientists

Artificial intelligence
The broad field that enables systems to sense, decide, and act, offering general-purpose intelligence to achieve specific goals. Traditional AI can be rule/knowledge-based.

Machine learning
A focused subset of AI that automatically self-improves its performance over time through data and experience.

Deep learning
An advanced form of ML that uses deep neural networks for deep-layered analysis, extracting complex features from data.

AI easily accessible to end users

Generative AI
Specialized AI algorithms (like Chat GPT) that excel in generating new content across text, visuals, and audio, making them ideal for content creation.

58% …GenAI will …GenAI will improve the **quality of my company's products and services** in the next 12 months

70% …GenAI will significantly change the way my company **creates, delivers and captures value** in the next 3 years

70% …GenAI will require most of my workforce to **develop new skills** in the next 3 years

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Data & AI Products: CIO/CDOs need to enable the delivery of an end-to-end portfolio, from platform, data, to AI products

Data & AI Product Portfolio
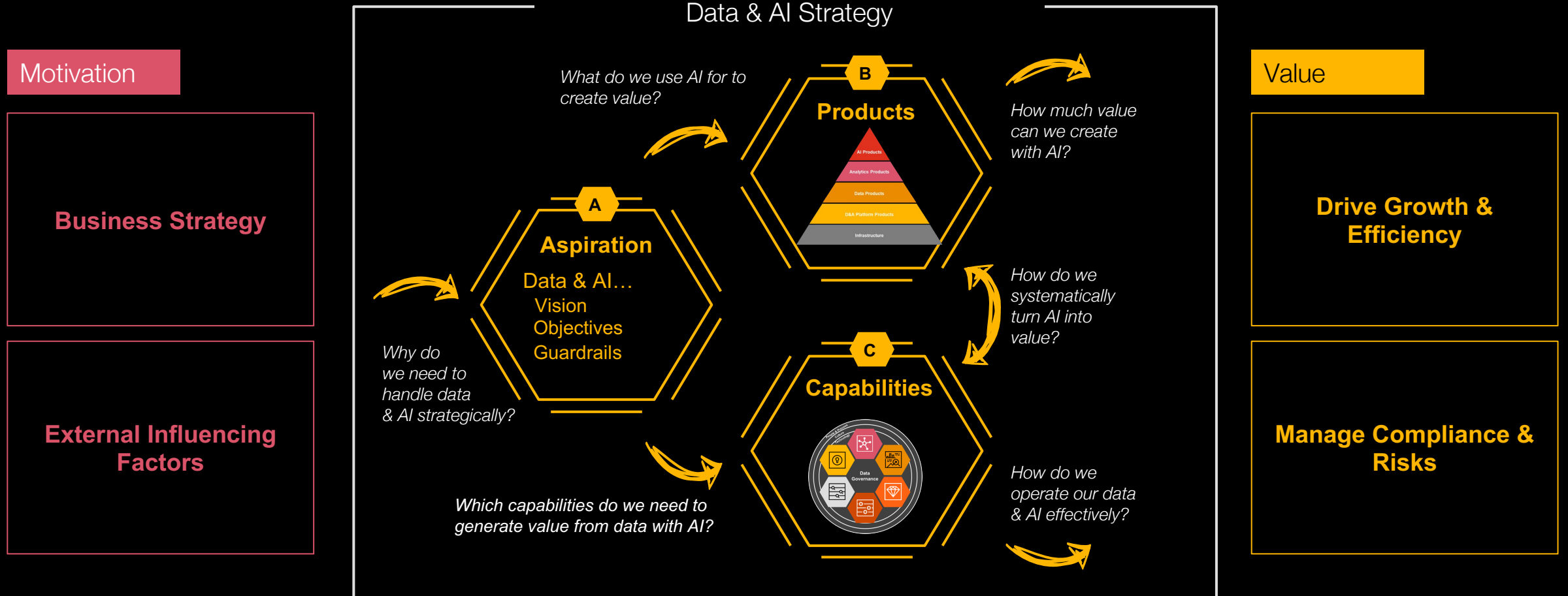
Business-defined use cases

Optimize the business

AI Products

Provide insights

Analytics Products

Provide information

Data Products

Provide foundation

D&A Platform Products

Infrastructure
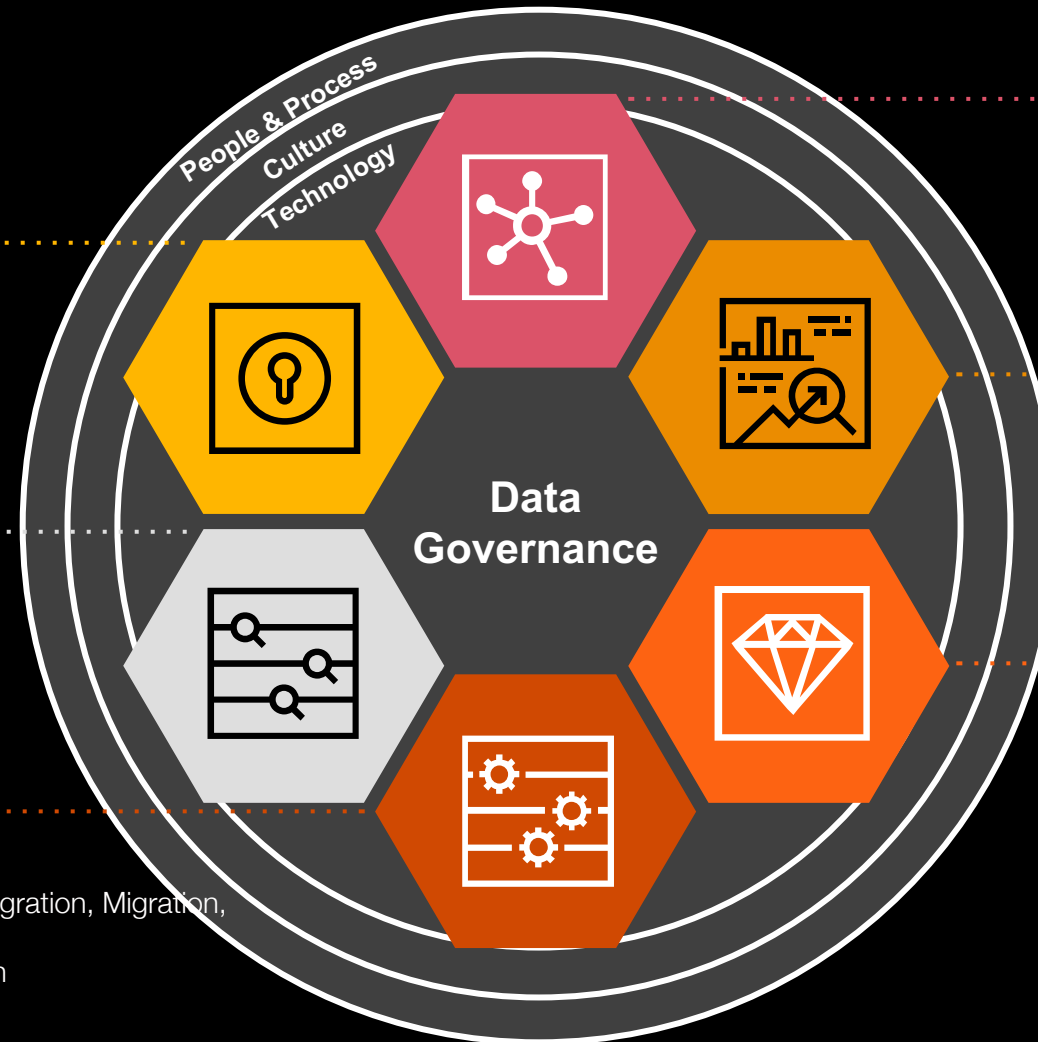
Without good ***data,*** *no good* ***AI***

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Without a ***platform,*** *no* ***scale***

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Approach: A comprehensive Data & AI Strategy aligns the right use cases and capabilities to reach the business aspiration

Data & AI Strategy

Motivation

Business Strategy

External Influencing Factors

What do we use AI for to create value?

Products

AI Products
Analytics Products
Data Products
D&A Platform Products
Infrastructure

How much value can we create with AI?

A

Aspiration

Data & AI…
Vision
Objectives
Guardrails

Why do we need to handle data & AI strategically?

How do we systematically turn AI into value?

C

Capabilities

Data Governance

Which capabilities do we need to generate value from data with AI?

How do we operate our data & AI effectively?

Value

Drive Growth & Efficiency

Manage Compliance & Risks

Data Governance: Multiple capabilities need to be established, from data architecture to quality and protection

Data Protection
- Data Classification, Privacy & Deletion
- Data Security, Encryption, Access Controls
- Incident Management & Data Recovery

Document & Content Mgmt.
- Principles, Policies & Guidelines
- Compliance Monitoring
- Reporting

Data Processing
- Data Lifecycle Management, incl. Collection, Integration, Migration, Transformation, Storage, Provisioning, Archiving
- Data Warehousing, Data Lake, Data Virtualization

Data Architecture
- Enterprise Data Modeling
- Data Definitions & Taxonomies
- Reference & Master Data Mgmt.
- Data Integration

Data Catalog & Metadata
- Data Discovery
- Data Cataloging (incl. Business Glossary, Data Dictionary)
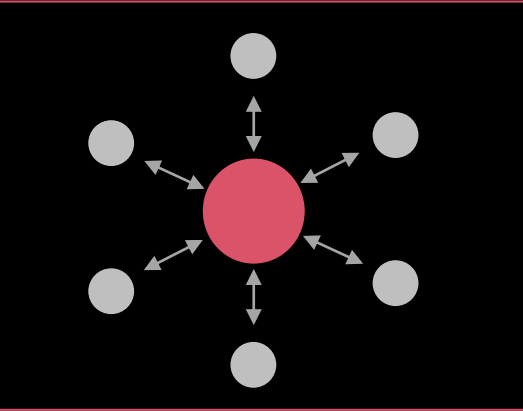- Data Lineage

Data Quality
- Data Quality Control
- Data Issue Management
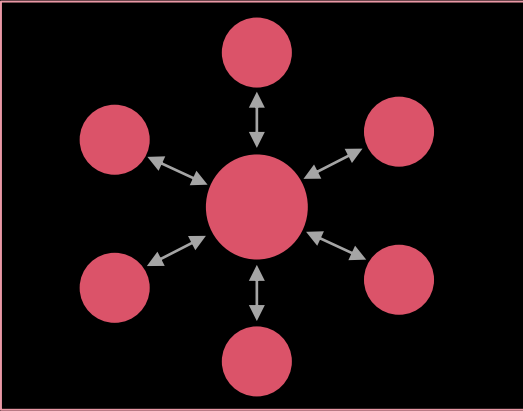- Data Error Correction
- Data Quality Reporting

Source: PwC Strategy& analysis

Organizational Setup: Data activities are organized with varying degrees of centralization and business autonomy
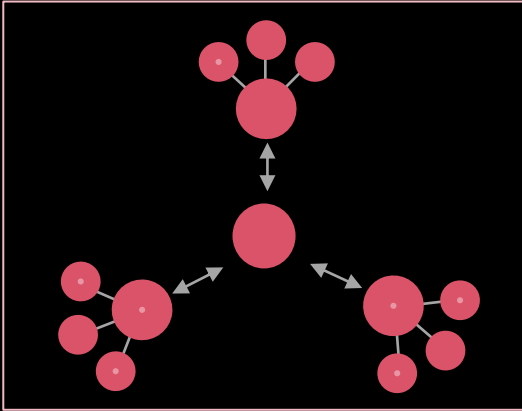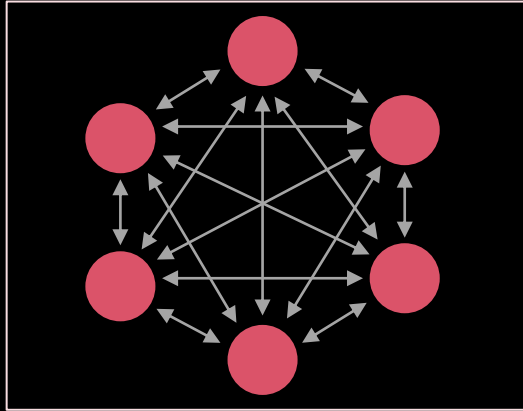

| 1 | CENTRALIZED MODEL | 2a | HUB & SPOKE MODEL | 2b | HUB-HUB & SPOKE | 4 | DECENTRALIZED MODEL |

Degree of **business autonomy** (high ease of implementation, proximity to data)

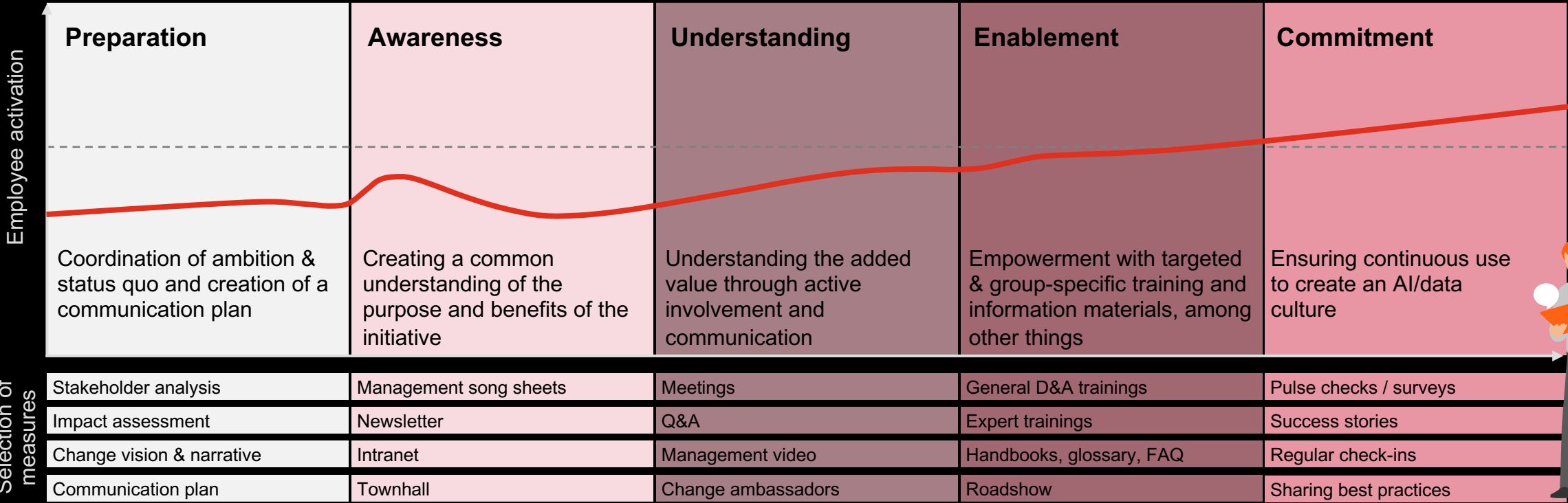Degree of **centralization** (acceleration, synergies, consistency)

■ Data capabilities   ■ Business

Culture: Successful data and AI transformations require people activation

Key phases of implementation

Employee activation →

Preparation	Awareness	Understanding	Enablement	Commitment
Coordination of ambition & status quo and creation of a communication plan	Creating a common understanding of the purpose and benefits of the initiative	Understanding the added value through active involvement and communication	Empowerment with targeted & group-specific training and information materials, among other things	Ensuring continuous use to create an AI/data culture

Selection of measures

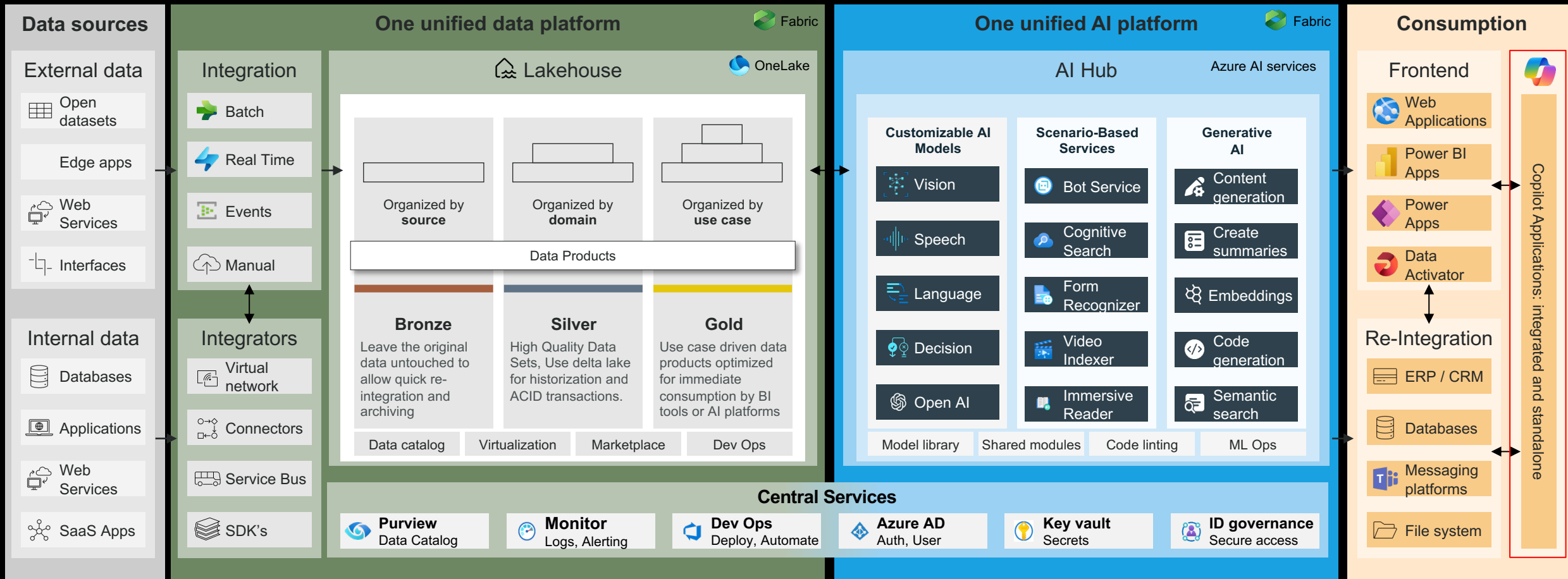| Preparation	Awareness	Understanding	Enablement	Commitment
Stakeholder analysis	Management song sheets	Meetings	General D&A trainings	Pulse checks / surveys
Impact assessment	Newsletter	Q&A	Expert trainings	Success stories
Change vision & narrative	Intranet	Management video	Handbooks, glossary, FAQ	Regular check-ins
Communication plan	Townhall	Change ambassadors	Roadshow	Sharing best practices

After an initial status quo assessment, the appropriate measures can be selected to activate all employees

Technology Architecture: Establish an integrated data & AI platform

Data sources

External data
- Open datasets
- Edge apps
- Web Services
- Interfaces

Internal data
- Databases
- Applications
- Web Services
- SaaS Apps

One unified data platform — Fabric

Integration
- Batch
- Real Time
- Events
- Manual

Integrators
- Virtual network
- Connectors
- Service Bus
- SDK's

Lakehouse — OneLake

Organized by **source**	Organized by **domain**	Organized by **use case**

Data Products

Bronze	Silver	Gold
Leave the original data untouched to allow quick re-integration and archiving	High Quality Data Sets, Use delta lake for historization and ACID transactions.	Use case driven data products optimized for immediate consumption by BI tools or AI platforms

Data catalog	Virtualization	Marketplace	Dev Ops

One unified AI platform — Fabric

AI Hub — Azure AI services

Customizable AI Models	Scenario-Based Services	Generative AI
Vision	Bot Service	Content generation
Speech	Cognitive Search	Create summaries
Language	Form Recognizer	Embeddings
Decision	Video Indexer	Code generation
Open AI	Immersive Reader	Semantic search

Model library	Shared modules	Code linting	ML Ops

Consumption

Frontend
- Web Applications
- Power BI Apps
- Power Apps
- Data Activator

Re-Integration
- ERP / CRM
- Databases
- Messaging platforms
- File system

Copilot Applications: integrated and standalone

Central Services

Purview — Data Catalog	Monitor — Logs, Alerting	Dev Ops — Deploy, Automate	Azure AD — Auth, User	Key vault — Secrets	ID governance — Secure access

Exemplary architecture on Microsoft Azure

Discussion: Given a world of permacrisis and continuous reinvention, do you perceive a change in Data & AI strategies?

Observed trends in Data & AI strategies…

Continuous Adaptability
Political and economic uncertainties require flexible approaches with minimum lock-in

Short-term business impact
Focus on initiatives with clear ROI, in particular direct cost-reduction use cases

Human-led, tech-enabled
GenAI will likely not replace your job, but someone using GenAI will

Decentralization & Federation
Business reactivity requires decentral autonomy, but central enablement and governance

… and the changing role of data decision makers

Thank you

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