



Digital Transformation Chemicals Industry

KEARNEY

Introductions & Contact

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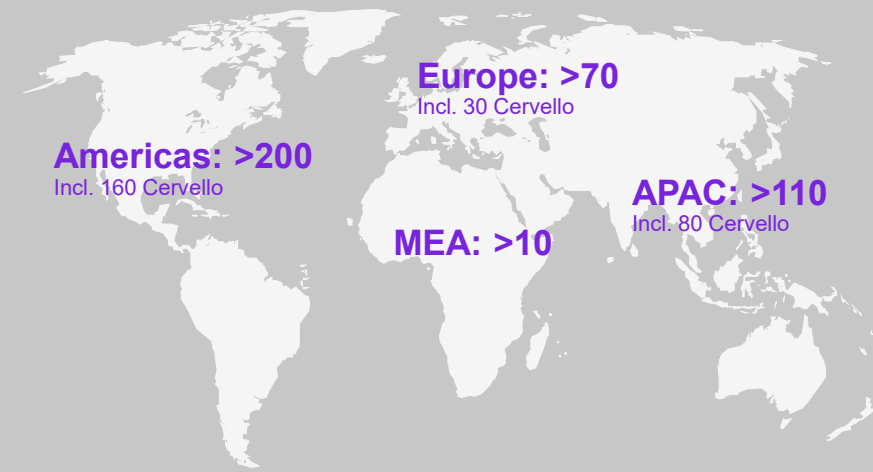


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Kearney Analytics is a team of >400 practitioners that is eager to develop the best solutions for the demands of our executive clients

The global Kearney Analytics team



... plus countless of analytically skilled consultants within our practices
 ... plus a very strong external partner network

Translating business strategies to analytics requirements
Market ready solutions for our core offerings
Deep and broad Advanced analytics capabilities

KEARNEY ANALYTICS
 KEARNEY
 Cervello
a KEARNEY company

Data management solutions
Enterprise Performance Solutions
Customer and Supplier Relationship Management systems

Analytics Consultant

Translate business problem to analytical solution



Data scientist

Advise on best techniques and algorithms, incl. AI and ML



Data Engineers

Organize, synthesize and present data at large scale



Solution developer

Form and scale MVP incl. Python, C#,



Solution owners

Advance, customize and innovate Kearney Analytics solutions leveraging all above capabilities



Margin Recovery Solution

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Client is an American company producing a number of products to supply globally.

Client overview



Produces over **>90K products**



Customers in **195 countries**



Net sales in 2021 were **\$11.7 billion** with an operating profit of **\$585 million**



After the acquisition they had **26K+ employees** worldwide

Competitive advantage caused by intangible assets and switching costs.

Proprietary formulations



- High R&D spending required for the development of highly engineered, proprietary formulations that **can't be precisely replicated**
- Intellectual property stays in-house
- R&D to identify and service new customer trends
- More than **300 patents** in the U.S. since 2000

Acceptance on core list



- Wide-spread **acceptance** on customer core lists
- Large multinational CPG companies (and increasing midsize companies) use core lists; **preferred suppliers**
- Only top 4 similar companies truly global operations, meaning **competition** for multinational customers limited to **top 4**

Competitive Advantage

Switching costs for customers



- Volume represent **specialty solutions** rather than commoditized ingredients
- Manufacturing customized solutions for a wide variety of consumer products. If a customer were to switch suppliers, it would risk **losing highly specific characteristics** of product

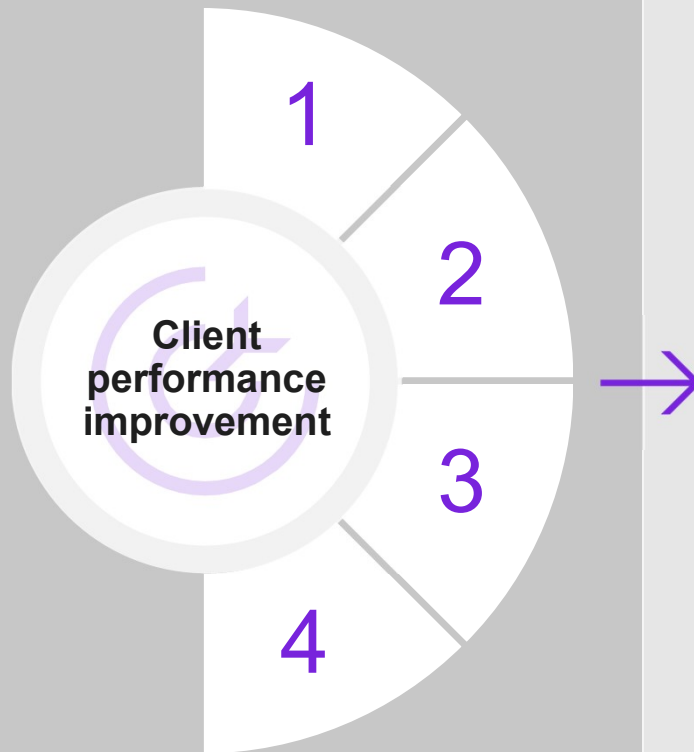
Ingrained in Supply Chains



- Deeply **ingrained** in supply chains of customers, serving a **key supplier** in the **manufacture** of well-established brands and **development** efforts for new products
- Ingraining while maintain **control of associated intellectual property**

We supported the client in developing capabilities and operating model changes to adjust to the inflation and recover margins.

Margin Recovery capability building



1 Improve **Data Capabilities** to allow quicker translation of market development into pricing action



2 Improve **Forecasting Process** to increase agility in an inflationary environment (and de-couple from the Budgeting Process)



3 Improve **Negotiation and contract-reopening** capabilities to recover margin from customers



4 Improve **Risk Management** capabilities to manage risk both on procurement- and customer side



Source: Kearney

The solution impacted the client on 4 main areas

Impact

Non-Exhaustive

		From...	To...
Data Capabilities	Data transparency	Limited capability to translate cost increases to finished goods	Reliable capability to translate freight, energy and raw materials increases to finished goods
	Data accuracy	Scattered data collection & interfaces per BU	Integrated data sources with single interface on enterprise level
	Tool automation	Manual & excel-based tools	Refreshable tools & dashboards
Forecasting Process	Process design	Combined budget and pricing process	Differentiated processes for annual budgeting and pricing
	Forecasting cycle	Input prices updated only 1 time a year	Shortened forecasting cycle to 3 weeks
	Governance	Lack of end-to-end accountability	Assigned accountability to each process step (RACI)
Commercial	Resource capability	Scattered negotiation tools & techniques	Aligned negotiation approach & techniques
	Negotiation cycle	Adhere to customer cycle	Negotiate based on client need
Risk Management	Risk policy	No risk policy on supply risk in place	Key recommendations to develop supply risk policy & governance identified
	Risk exposure	No clear visibility on risk exposure	Quantified risk exposure and key levers to reduce
	Contracting	Siloed contracting practices between commercial & procurement and between several BUs	Visibility on key areas of the business that benefit from an integrated contracting approach & key levers to pull



Transform to grow strategy

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The energy transition industry trend has steered client to diversify away from the ICE value chain.

Client overview


- Client is a **global leader** in the formulation, manufacturing and marketing of petroleum additives for the lubricant and fuel industries
- The energy transition shift means the client will need to transform and diversify to new spaces outside ICE value chain


Product Portfolio	
Fuel Additives	<ul style="list-style-type: none"> – Refinery, pipeline & terminal additives – Biodiesel additives – Fuel borne catalysts
Crankcase lubricant additives	<ul style="list-style-type: none"> – Passenger car motor oils – Heavy duty diesel oils – Viscosity modifiers – Dispersants – Pour point depressants – Detergents – Antiwear agents
Specialty lubricant additives	<ul style="list-style-type: none"> – Two- and four -stroke engine oils – Railroad lubricant and gas engine oil additives – Industrial products – Marine lubricant additives – Transmission fluids


Client's ambition is to be the industry benchmark through executing its 'Transform to Grow' strategy.

 **The market is changing** with increasing commoditization and changing customer expectations – in a large part due to the accelerating demand shift driven by energy transition.


- **OEM players** are shifting powertrains, reducing R&D spend on ICE, with focus on heavy cost reduction
- **Lubricant players** are focusing on portfolio simplification and cost optimization


 The **overall value pool is in decline**, with competition between key players becoming increasingly sophisticated


 As a result, **performance started to decline** with EBIT falling ~20% over the past 3 years after a decade of strong performance

 The business has a **short window to act** and needs to **grow within traditional markets and diversify** into adjacent new profit streams


Context and key challenges

 To **deliver the ambition** and transform from the leading transportation additive company into a world-class speciality chemicals company, **Requires a significant capability shift**

 **'Transform to Grow' strategy** – deliver more pre-tax earnings each year on a regular basis by 2025 and growing that further by 2040

 **Multiple initiatives are currently ongoing and running in parallel**, however, the governance is fragmented and there is limited visibility on how these contribute to the future ambition

 **Technology and digital are recognized as key enablers** to achieve the future ambition and should be fully leveraged across the business

 To be successful will require **changing multiple things in parallel in a coordinated manner** – driving the need for an integrated business transformation

Case for change

The objectives of the transformation are to...

Deliver a EBIT uplift by 2025

AND

Build the capabilities and mindset to underpin our shift to a world-class chemicals company

Specifically, for the Pathfinder phase this means...



Transformation roadmap created

Clear inter-dependencies, sequence of activities and milestones

“One version of the truth” capturing all ongoing activities



Clear prioritisation of initiatives

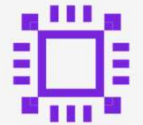
To focus resources and efforts on high impact areas and quick-wins

Need to be open to potential newer and larger opportunities



Value case incorporating the art-of-the-possible

Initiatives ready for execution – with organisation stakeholders aligned and clarity on accountabilities – that incorporates best-practice thinking and digital capabilities



Robust Governance established

Ability to manage the value delivery, progress and risks through clear teaming and sequence of required interactions



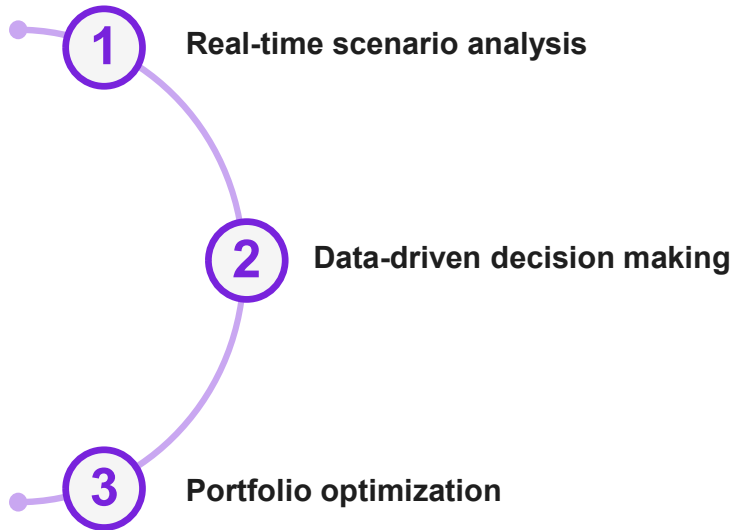
Digital connected planinng

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Several of our clients are rethinking their planning ambitions and developing capabilities to win with Digital Connected Planning

What is Digital Connected Planning?




- Horizontal and vertical integration of business, operational, and financial planning processes
- Based on an integrated planning and data system
- Enables the collaboration, insights and capabilities necessary to inform strategic decision-making.



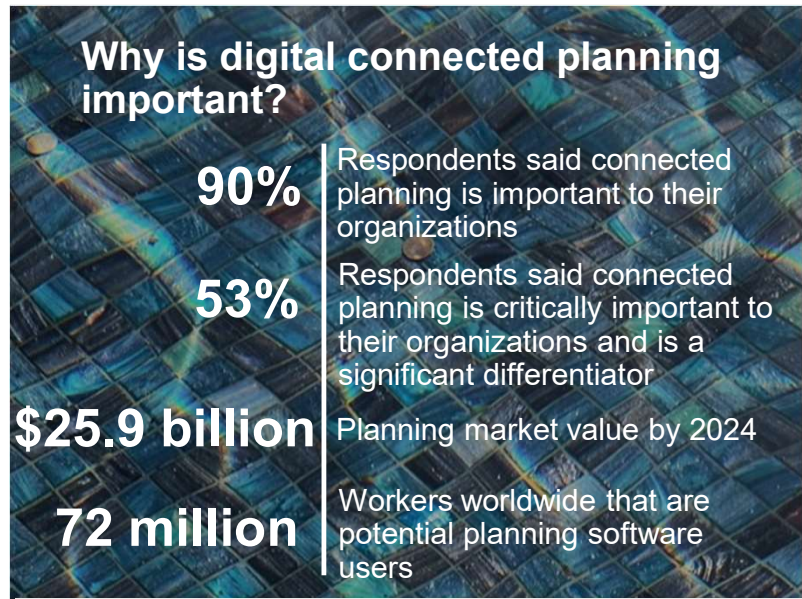
Why is Digital Connected Planning needed?

 <p>Planning is inefficient, but critical</p>	Though time-consuming and inefficient, organizations rely on insights to support decision making and establish credible targets
 <p>Organizational agility is lacking</p>	Lack of integrated planning systems limits ability to respond to leadership questions and assess operational impacts
 <p>Integrated planning data value is untapped</p>	Deficiency in real-time scenario modeling and decision-making, prevents capturing upside and minimizing loss from market volatility

Why is Digital Connected Planning needed now?

 <p>Winning ambition</p>	To be the leader among peers, many of whom are still contemplating Connected Planning
 <p>Agile capabilities</p>	To increase scenario planning frequency and address evolving ESG and market needs
 <p>Efficiency and effectiveness</p>	To drive down the cost of asking questions to Zero

Digital Connected Planning – driving improved transparency, greater efficiency, and more informed decision-making.



Business value from digital connected planning

Real-Time Decision Making. Leverage shared data across functions to make more informed decisions and increase speed in the decision-making cycle

Lower Operational and Technology Costs. Streamline end-to-end processes, automating highly manual processes and consolidating outdated systems to reduce cycle times and administration costs

Improved Governance. Better Risk Management. Establishing full audit trails and traceability across multiple operational functions

What are the three big issues clients say they are facing?



Drive Operational Efficiencies. Planning processes are complex and require high-levels of manual intervention resulting in errors and more time spent on work arounds instead of planning activities.



Data is holding back speed to market for the business. Data is siloed and cannot be rapidly applied to drive more accurate plans.



Improved Reporting, Collaboration, & Transparency. Disparate systems and planning processes lead to lack of visibility requiring offline conversations

Why is value missed when companies do pursue digital connected planning initiatives?



Lack of focus on data strategy and **defining a single source of truth** ensuring accurate, complete, and in-sync master data.



Focusing on “lifting-and-shifting” existing processes to digital tools, overlooking **process resign opportunities** to improve planning efficiency.



Lack of **executive sponsor providing top-down support** who can advocate for success and drive change across other functional areas.

Sources: Respected research institutions Gartner, IDC, & Nucleus Research

Digital Use Case Inventory

<p>Connected Planning</p> <ul style="list-style-type: none"> • Upstream Deep Water • Program Strategy • Governance & Structure • Support & Scale 	<p>Production Forecast</p> <ul style="list-style-type: none"> • Upstream Deep Water • Oil / Gas / Water Forecast • Emissions Forecast • Deferment & Constraints • P10 / P50 / P90 	<p>Integrated Activity Forecast</p> <ul style="list-style-type: none"> • Upstream Deep Water • Short Term Activity Plan • Impacts on Production • Safety including POBs • Scenario Planning 	<p>Financial Forecast</p> <ul style="list-style-type: none"> • Upstream Deep Water & Unconventional • Profit & Loss Forecast • Balance Sheet Forecast • Cash Flow & KPIs • Joint Venture Forecast 	<p>Opportunity Funnel</p> <ul style="list-style-type: none"> • Upstream & Downstream • Economic Models, KPIs • Project creation • Attribute Management • Production, Financial, and geo reporting 	<p>Emissions Forecast</p> <ul style="list-style-type: none"> • Upstream Deep Water • Linear/multi-linear regression • Fuel, Flare, CO² Emissions • Dynamic Emissions Management Reporting
<p>Capital Forecast</p> <ul style="list-style-type: none"> • Upstream Deep Water • Short- & long-term detailed CapEx forecast • Consolidated reports and KPIs (asset & project) • Specific accounting regulation forecasting 	<p>Operating Expense Forecast</p> <ul style="list-style-type: none"> • Upstream Deep Water • Detailed Operating Expense Forecast • Joint Venture Forecast • Consolidated OpEx reporting (asset, project) 	<p>Corporate Forecast</p> <ul style="list-style-type: none"> • Global Exploration • Profit & Loss Forecast • Balance Sheet Forecast • Cash Flow & KPIs • Consolidated Exploration reporting 	<p>Depreciation, Depletion & Amortization</p> <ul style="list-style-type: none"> • Upstream Deep Water • Depreciation, Depletion & Amortization Forecast • Variance analysis (time and version) • Consolidated DD&A reporting 	<p>Center of Excellence Mobilization</p> <ul style="list-style-type: none"> • Global Strategy • Governance & Structure • Data & Hierarchy Standardization • Technical & functional enablement 	<p>Digital enabled raw material index tracking</p> <ul style="list-style-type: none"> • RM price trends • RM cost driver transparency • Price audit support & alerts/triggers • Forecast spend vs. budgets

Helping leading energy and chemical companies be agile to market conditions with digital connected planning



\$60M

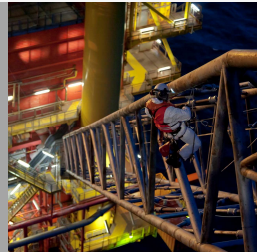
.. annual improvement in Free Cash Flow due to production availability

2,000 hours saved per year for reservoir engineers
Visibility in to causes of and impacts of downtime
Ability to **scenario plan and optimize** maintenance plans

40%

...reduction of effort to produce each Capital Forecast (10k hours)

E2E visibility across capital planning functions
Elimination of 150+ spreadsheets and 66+ handoffs
Supported & **accelerated the investment decision** process



~1%

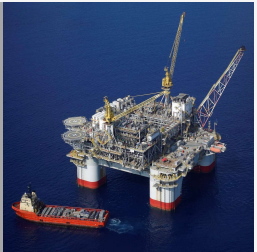
...annual improvement in operating expense forecast impacts \$10-15M FCF

30% reduction in data collection and validation
Integrated and collaborative forecast process
Elimination of manual data manipulations

60%

...effort reduction for Greenhouse Gas Emissions forecast (36 days)

30% cost optimization of emissions forecast
Centralized communication and reporting on GHG
FTE **efficiency** on each iteration and step of process





Case Studies

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Cervello helped an Oil and Gas supermajor launch and deliver a Digital Connected Planning program to optimize end-to-end planning

Situation

- Disconnected, spreadsheet-centric, and manual ways-of-working led to longer hydrocarbon maturation cycles
- Lack of end-to-end visibility caused inefficiencies, slower response to changing market conditions and longer cycles
- Segregated systems led to disconnected data and hierarchies, requiring a focus on data collection and consolidation, leaving little room for analysis and insights
- Siloed planning made it difficult to evaluate various scenarios for vertical and horizontal impacts and KPIs

Approach

- Facilitated a cross-functional workshop to identify and prioritize candidate processes for pilots to initiate a Connected Planning program
- Envisioned the future state through the development of a “North Star” Proof of Concept and long-term roadmap
- Built an integrated data model through a Data “Hackathon” with key client data leads
- Rapidly delivered business value by implementing a series of minimum viable products (MVP) using Agile methodology
- Connected MVPs and related planning processes to enable end-to-end data sharing and visibility
- Enabled the client team on the technology and delivery process to sustain and scale the program
- Developed global Center of Excellence for governance and technical leadership



Impact

- **\$60M improvement in Free Cash Flow** due to gains in production visibility and availability
- **40% reduction in effort** to create CapEx and OpEx plans and 30% reduction in overall plan cycle time
- **Visibility into the operational and financial outcomes** of timing decisions in exploration and development
- **Reduction of over 2,000 FTE hours** per year in creating the production operating plan and quarterly forecasts
- **Better decision quality** on opportunity funnel priority and maturity by connecting data across business functions
- **Actionable insights** as activities have shifted to data analysis and insights from data collection and consolidation
- **Potential for exponential upside value** based on the programs ability to drive faster and better decisions

We supported a global leader in specialty ingredients to recover their margins due to massive price increases

Case Study

Key learnings:

- Build structural, refreshable solution vs. assigning one-off short-term targets
- Tackle operating model as well as data quality
- To drive adoption, design tools based on end-user requirements & iterate

Situation

- Raw materials, energy and freight costs are surging across the globe. This affects entire value chains across industries and causes price increase efforts throughout
- Our client was hit with a significant inflation and was unable to translate cost to price increases, track progress and forecast future impact
- Client felt forced to absorb price increases due to skewed power balance. Lack of supporting data quality & systems further complicated margin recovery
- No single source of truth with 100+ data sources which many duplicates and redundant master data issues
- Manual process of allocation and booking costs done differently across the geographies

Approach

- We developed a cost-impact tool that quickly translates cost and market development into pricing actions
- We integrated and harmonized data across 100+ sources to reusable design patterns built on AWS and Snowflake with near real-time data flow
- Built highly reusable common data model which can be leveraged for future initiatives enabling multiple manufacturing ,pricing and supply chain business use cases
- Enabled Scalable, repeatable data quality process to ensure Data is sufficiently reliable for decision making
- Created dashboards with market intelligence powered by advanced analytics to map price increases for RM, energy & freight, and consumer sentiment.
- Provided support in developing capabilities and operating model changes to adjust to inflation



Impact & outcome

- Existing margin gap has largely been closed, supported by regained transparency on raw material, energy and freight costs affecting finished goods prices
- Aligned negotiation toolkit to help pass-on price increases and support client negotiation cases
- The solution establishes consistent design patterns (that enables trusted data sourcing) and a common solution design that establishes a foundation for future use cases
- Framework for auditing data quality with the ability to extend identify and remediate exceptions & outliers
- Built Margin Recovery capability across 3 axes:
 - Risk Management
 - Forecasting Process
 - Cost-impact tool to enhance data

We uplifted the maturity in digital procurement solutions for a lubricants and specialty chemicals company – initial roadmap, use case prioritization, technical build of selected digital, scalable MVPs

Situation

- Client is a medium-sized **lubricants and specialty chemicals** producer with a global footprint, facing an overall stagnating market with expected decline in the future
- Historically **low maturity in traditional procurement best practices** and especially lacked capability and visibility into **state-of-the-art digital (procurement) solutions**
- **1st phase** of our support was **savings delivery through fact-based negotiations** in several waves for raw materials – completed with highly successful outcomes
- **2nd phase** focused on **enabling future procurement function through digital & analytics and uplift capability** – from vision, strategy, roadmap, use case prioritization, fact-based initiative prioritization and ultimately “buy” vs. “building” of technical solutions

Approach

- Develop **roadmap for digital procurement solutions from 2022-2025 incl. change management/training**
- **Defined “buy” vs “build” path for each of the top priority capabilities** based on maturity of third-party solutions, client specificity, cost estimate for development & implementation timeline
- **Selection of core solutions/capabilities included**
 - **Spend visibility for Raw Materials (RM) and Indirects & Services (I&S)**
 - **Proc. Analytics and insights:** Digitized market index database and RM price formula repository to calculate and visualize savings & price compliance tracking
 - **CLM (contract lifecycle management)**
 - **e-sourcing** requirements review & vendor selection



Impact

- **Value:** Digital & Analytics enabled **>\$60m of proc. savings**
- **Spend visibility:** Built **refreshable dashboard** for a raw material spend cube covering ~\$2bn spend and **tool vendor selection for I&S**
- **Spend insights:** **Unified market intelligence data from >10 sources** into a database/dashboard to facilitate pricing analysis and **highlight where visibility gaps lie** (with further automation potential)
- **Savings tracking:** Visualized **pre- and post-negotiation pricing formulas, related indices, and compute savings** for materials covering >\$1bn in annual raw material spend
- **Compliance:** Implemented a **single source of truth** of clean data to **identify and report cost rises** (through alerts) and track subsequent ‘value leakage’ risks through the business

We supported a chemicals company through their D&A transformation with a focus on Data Architecture



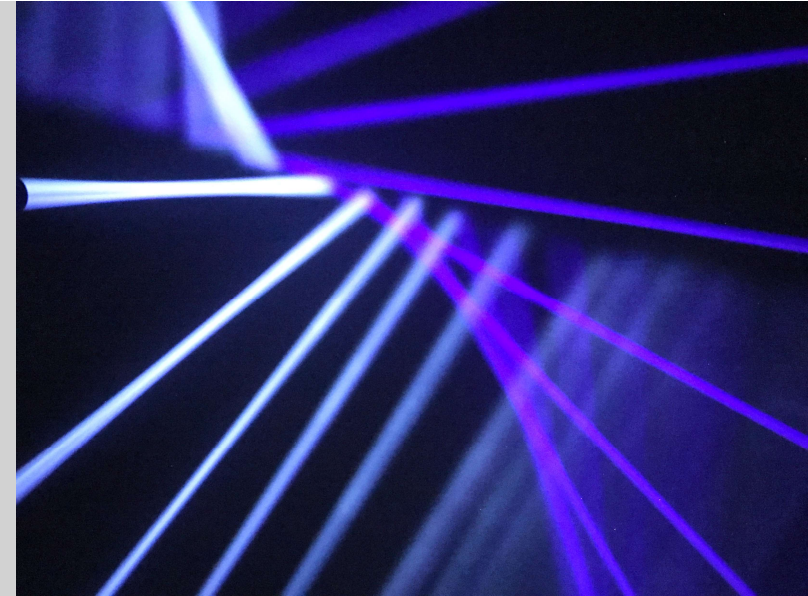
Situation

Our client was facing a number of challenges including:

- **Reliance on highly manual desktop-based processing**
- **Aging legacy systems** with limited integration and options to scale
- Highly **fragmented data landscape** resulting in lack of trust around data accuracy
- **Limited organisational capabilities** to deliver D&A needs
- Functions operating individually with **minimal transparency, integration and governance**
- High volume of **fragmented D&A initiatives** and lacking clarity on D&A ambition

Approach

- **Current-state D&A maturity assessment** of 9 functions (e.g. finance, procurement, sales...) covering data architecture, technology and capabilities
- Design of a best in class future-state **Modern Data Architecture, Data Operating Model, Governance, policy etc.**
- **Workshops to define processes, policies and governance** to set up D&A Centre of Excellence
- **D&A portfolio refresh and prioritisation** based on desirability, viability, feasibility
- **D&A learning curriculum** with over 130 employees tailored to their needs
- **Delivery of D&A portfolio**, including MVPs (e.g. PowerBI dashboards and target data model)



Impact

- **Fit-for-purpose Modern Data Architecture for full Enterprise wide roll-out**, including pragmatic roadmap for execution
- Established set-up **D&A CoE** with detailed roles and responsibilities and **agile VC funding model** and
- **PowerBI dashboard** with transparent and prioritised D&A portfolio of **150+ initiatives** with a 3-year delivery roadmap
- **80% uplift in understanding** of agile across mid-management through agile coaching

We developed a hosted Cost-to-Serve solution to provide accurate customer and product profitability analysis for a chemical manufacturer

Situation

- The client is a global chemical manufacturer, undergoing a company wide digital enablement and cost reduction programme
- No consistent company-wide method for measuring cost-to-serve across products and customers
- Inter-department confusion or disagreement over the cost of serving to products to different customers
- A solution was needed to provide a repeatable way to pragmatically allocate costs across the portfolio and measure product and customer profitability

Approach

- Built a custom user interface application for data owners to validate & refresh data for analysis
- Collected surveys to better understand sales, marketing and technology cost allocations and revised cost allocation rules
- Prototyped new allocation model and agreed on company-wide allocation rules
- Produced PowerBI reports to standardise, centralise and socialise information, analysis and results
- Transferred the prototype to a Kearney hosted MS Azure platform, providing a robust and scalable way to access insights and build self-service analyses
- Conducted user training and on-boarding



Impact

- **Increased awareness** across business of fixed and variable costs allocation
- Provides a single source of truth for **past profitability** of customers, products and channels
- Supports decision making for account management:
 - Address **unprofitable customers** and products through targeted actions, even if higher revenue
 - Formulate recommendations to reduce complexity (e.g. where to **rationalize product portfolio**)
 - Understand **impacts of portfolio changes** on manufacturing, supply chain and procurement



**What would
you like to
digitize?**

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