DOMINATING WITH **DATA**

Migrating and Modernizing CPG Data to Unlock New Capabilities

Devang Pandya
Senior Director, Data Engineering,
Tredence Inc.

Chief technology officers (CTOs) and other IT leaders at global consumer packaged goods (CPG) firms have a vision for migrating and modernizing their data. They'd like to create first-party data to inform critical business processes, from creating advanced demand forecasting capabilities to innovating products and improving trade promotion effectiveness.

With modernized data, CPG teams streamline access to insights and analytics they can use to make better business decisions. They also can move faster with other strategic initiatives, such as optimizing supply chain processes, improving cross-price elasticity, and driving more ROI from retail media networks with robust segmentation and personalization strategies.

CPG technology leaders can transform their business by migrating key data sets and workloads and modernizing their base model. As a result of this work, their teams will be able to draw valuable insights from their data holdings and create connected intelligence that fuels critical business and operational processes. With predictive and prescriptive analytics capabilities, CPG teams can drive new cost savings by continuously optimizing processes, notching higher revenues and profitability for their companies.

CPG DATA:

A Mountain of Operational Challenges

So, what's standing in the way of progress? Many CPGs struggle with legacy data platforms that offer limited, lagging insights and are expensive and cumbersome to maintain. As a result, leaders and teams cannot fully operationalize their data. Challenges include:

Replacing legacy solutions

Traditional data warehouses and appliance-based technology solutions such as Oracle, Teradata, Netezza, SAP, and SQL Servers mainly support structured data but can't provide real-time access for various data sets. Meanwhile, big-data solutions such as Hadoop may integrate structured, semi-structured, and unstructured data but are complex to operate, requiring dedicated managers and teams.

New data platforms must handle vast amounts of data, support real-time processing requirements, and scale up and down as needed.

Deepening data insights

CPG teams know there is a vast wealth of unstructured data if they can only tap into it. This unstructured data includes user interactions on websites and social media, survey data, sensor-tagged devices, and constantly evolving structured business data.

CPG teams want to deploy a modern data platform that can rapidly ingest this data, perform advanced analytics, and evolve capabilities with machine learning (ML). By so doing, CPG teams can empower user personas with easily consumable data and reporting capabilities and continually improve insights into market, competitor, and customer trends. In addition, CPG firms can improve data quality and security with proper governance.

Optimizing costs

Legacy on-premises platforms often have multi-year licensing agreements while providing rigid code bases that are hard to maintain and upgrade, causing costs to spiral.

CPG teams know that adopting scalable cloud platforms and using disciplined processes like DevOps, Cloud FinOps, MLOps, and LLMOps will enable them to create marketing -leading analytics, reporting, and AI capabilities at a lower cost structure. In addition, data science teams can focus on solving business problems instead of wrangling data.

Overcoming skill set challenges

It is becoming harder for CPG firms to find professionals with legacy programming skills, as top talent wants to work with modern programming languages and platforms.

With modern cloud and data platforms, CPG firms can attract the best talent to evolve network infrastructure and business capabilities.

ACCELERATING DOWN THE PATH
to Migrating and Modernizing Data

With this technical roadmap, CPG teams can discover their existing infrastructure and gaps, create a final plan for a new technical architecture, and implement a scalable data platform that will grow with data volumes, business expansion, and users.

1

Discover and scope the data implementation

In a discovery workshop, CPG teams can break down the migration project into specific domains, evaluate the current data landscape, capture reporting needs by application, and rationalize inventory against key criteria. Then, with the help of their partners, they can use accelerators to reverse-engineer and document the code base, categorize objects based on domains and dependencies, and identify the best migration approach for each domain. The objective is not to transfer technical debt from legacy to modern platforms.

With this information, the team can rationalize key performance indicators (KPIs) across brands to support the application redesign, identify and prioritize domains for migration and test data, and create a detailed project plan that can be shared with stakeholders.

2

Develop a detailed plan

Next, the joint team will define a delta lake and data warehouse based on the medallion (or tiered) architecture, finalize the migration methodology for each domain, and create a business glossary and KPI library. The joint team will also establish quality rules and security policies, define the logical data model (LDM) for the delta lake, and finalize the technical architecture and high-level design document for the migration. The CPG team can then socialize these materials with key stakeholders to gain their support.

3 Convert and build

The team then creates a physical data model (PDM) in the cloud data platform, converts legacy code to the target application using accelerators, and manually modifies non-convertible code. Next, they will implement data transformation and quality processes to ensure the legacy system data matches the modern platform as expected. The way to achieve this is to have an end-to-end data lineage, including a business glossary and KPI definitions captured through a mature data governance process. Finally, migrate historical data to the platform, point the downstream application and reporting to the data platform, and integrate and test the system.

4 Test and optimize

The team will validate data quality rules using test data and perform integration and user acceptance testing. Next, they will optimize data pipelines based on test results, ensure adequate downstream data flow, and define and share the test strategy and plan with key stakeholders.

5 Deploy and support

To go live, the team will create a change management plan, sunset legacy workflows, and support and hand over key activities. The joint team will then select the next domain for migration.

MIGRATING AND MODERNIZING DATA

Cleaning, harmonizing, and staging data was the top priority for CPG firms from 2022 to 2023. They are building on these capabilities by improving post-event analytics, volume planning accuracy, and promotion optimization—their top three priorities for 2023-2024.[1]

CPGs that haven't yet created robust data capabilities should seize this opportunity to increase competitiveness by migrating and modernizing key data sets. They can:

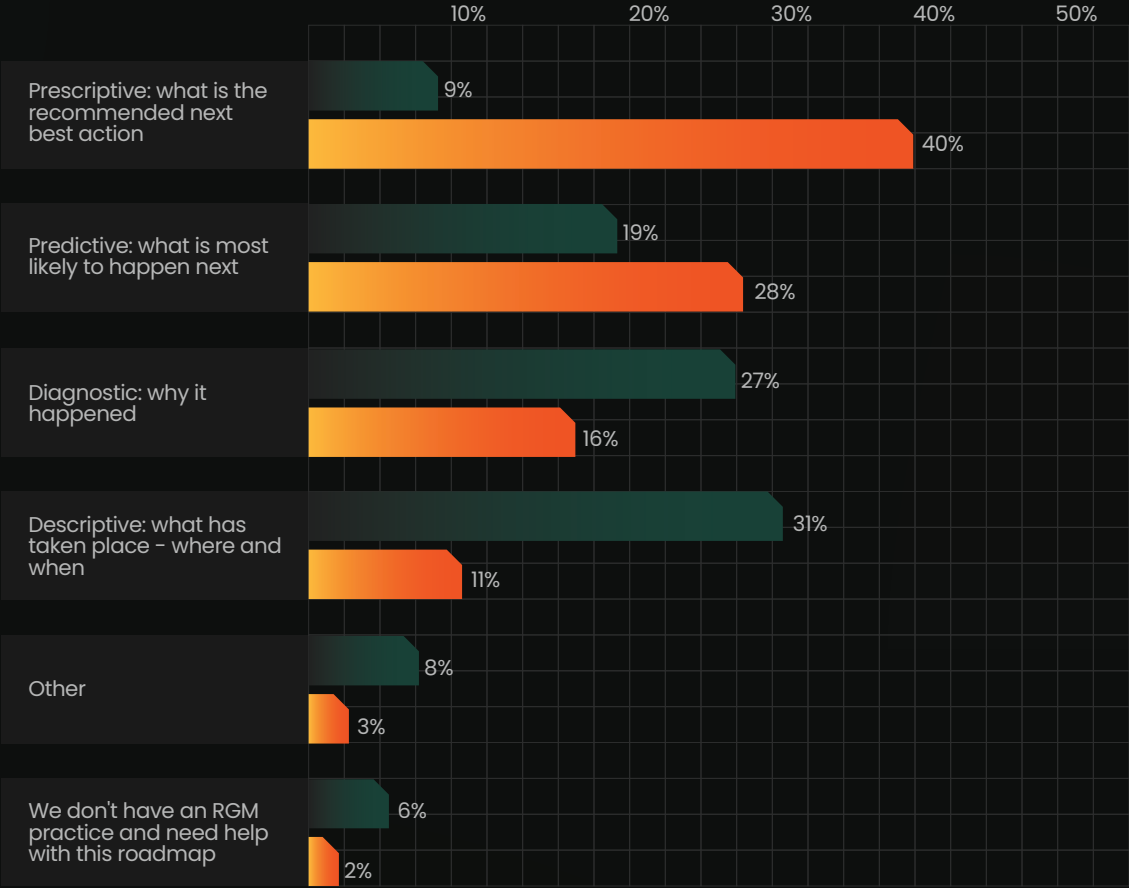| **Empower users with a single version of data truth**	**Equip user personas with data and reporting**	**Move from descriptive to predictive prescriptive processes**
Users will make better business decisions with real-time access to insights and analytics derived from structured, semi-structured, and unstructured data. By so doing, they can accelerate business momentum.	Business users require data for different purposes. A new data architecture will provide users with rich, curated data sets at their desired level of quality that they can use to innovate and optimize processes.	CPGs that improve their RGM maturity move beyond analyzing past performance and diagnosing the causes of successes and failures to predicting what will happen next and implementing recommended actions. RGM leaders increasingly use scenarios and automated recommendations to improve their effectiveness across planning, pricing, promotions, and other processes.

▸ 1   Building Efficient CPG Industry Growth For 2024 and Beyond, report, page 24, Promotion Optimization Institute, https://poinstitute.com/wp-content/uploads/2024/02/SOI-2024-Final-PDF-Format.pdf

Assessing RGM Practice: Current Maturity Versus Projections for 2024

Chart: Assessing RGM Practice — Current RGM practice vs Goal for 2024

Category	Current RGM practice	Goal for 2024
Prescriptive: what is the recommended next best action	9%	40%
Predictive: what is most likely to happen next	19%	28%
Diagnostic: why it happened	27%	16%
Descriptive: what has taken place - where and when	31%	11%
Other	8%	3%
We don't have an RGM practice and need help with this roadmap	6%	2%

Legend:
- Current RGM practice
- Goal for 2024

Primary Other Responses:
- Shoring up basic TPM
- Culture change towards RGM
- Go for improvements in various levers and KPI & Governance
- Building capability

More than two-thirds of CPG firms expect to have developed predictive or prescriptive RGM capabilities by the end of 2024.[2]

▶ **2** Building Efficient CPG Industry Growth For 2024 and Beyond, ibid, page 44.

See What Your

PEERS ARE ACHIEVING

Here's what CPG companies achieve when they migrate and modernize data and legacy systems.

Global CPG Firm

This leading CPG firm sought to modernize its legacy code base for supply chain initiatives. The company had a sprawling IT environment with frequent downtime due to inefficient coding practices and inaccurate designs. In addition, the firm wanted to refresh its code more frequently.

The firm improved visibility and decision-making after migrating and modernizing its code base.

$50M, or 30–35%
in total cost of ownership savings, including lower licensing costs

200+ KPIs,
providing end-to-end supply chain visibility

500 active daily users
with the data and reporting they needed

GLOBAL LEADER
in Hygiene Products

This premier CPG company operated an on-premises Hadoop system on Cloudera, limiting its ability to scale and causing service-level agreement (SLA) failures. In addition, the company faced fast-escalating costs.

As a result of migrating and modernizing its data platform, the firm drove financial and performance benefits.

$1M in new cost savings annually by optimizing queries	**50%** improvement in pipeline performance	**80%** improvement in provisioning new data sets

MIGRATE AND MODERNIZE TO
Reap Relentless ROI

Tredence partners with eight of the world's top 10 CPG firms, solving last-mile data science and AI challenges. We have deep insight into CPG firms' data objectives and business and technical requirements and offer end-to-end data migration and modernization services.

Offer domain expertise

Tredence provides deep CPG, data migration and modernization, analytics, AI, and ML expertise. We have worked with global leaders to deploy customer data platforms, operationalize data clean rooms, and exploit the full potential of retail media networks, among other objectives.

Leverage our accelerators

Tredence offers more than 30+ accelerators that speed time to value by 50%. We automate platform operations and testing while our data migration and modernization accelerators streamline ingestion and provisioning. Then, our code reverse-engineering accelerators modernize code from legacy databases, extract-transform-load (ETL) tools, and orchestration platforms.

Offering business-ready solutions

Tredence provides ready-to-deploy CPG data, AI and ML models, and intuitive dashboards for key use cases. For example, our supply chain command tower provides scenarios and recommendations, enabling CPG teams to identify and mitigate real-time risks to protect profitability. Our cross-price elasticity engine identifies opportunities across category and product lines where teams can raise prices without permanently losing customers to competitors and target product candidates for shrinkflation. With these accelerators, CPG teams can reduce product development costs by up to 35%.

Providing a migration center of excellence

We have 2500+ data engineering experts with deep experience in modern data platforms and domain expertise in migrating data and code to cloud platforms. With standardized, automated processes, we remove risk and time delay from migration processes, enabling CPG firms to speed time to value.

Leveraging partner orchestration services

Tredence has strong partnerships with leading cloud providers, such as Amazon Web Services, Google Cloud Platform, and Microsoft Azure, and data platform leaders, including Databricks, Snowflake, dbt Labs, Matillion, BladeBridge, and UnravelData. We leverage their orchestration services to streamline CPG firms' migration to modern data platforms.
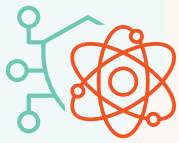
Enabling access to ATOM.AI

CPG teams can leverage ATOM.AI, our end-to-end ecosystem of AI/ML accelerators designed to solve the most complex data engineering and data science challenges. ATOM.AI creates an end-to-end process streamlining AI processes, from design to deployment, ensuring that new solutions achieve target business goals.

TALK TO TREDENCE.

Why Work with Us?

Tredence has a proven track record of optimizing critical business processes for eight of the world's top 10 CPGs. We help clients migrate legacy analytics and data to modern cloud-native architectures. CPGs then use these new data capabilities to extend into new business areas, unlocking business value at every turn.

Migrate to modernize data and drive new revenue and cost savings within months. Move at the speed of the market, dynamically anticipating and responding to new demand patterns and shifts with ease.

Ready to learn more?

We're offering a complimentary 60-minute discovery call to help you explore the business opportunities you can create by migrating and modernizing key data sets.

Contact us to learn more.

About the Author

Devang Pandya
Senior Director, Data Engineering,
Tredence Inc.

Devang brings extensive expertise in cloud computing, data architecture, and analytics to his role at Tredence Inc., where he focuses on enhancing organizational performance. With a career spanning over two decades, he has held pivotal roles in various enterprises in North America and Canada, centering on business planning, technical design, and executive leadership. His experience includes managing director positions and spearheading major big data initiatives, significantly shaping enterprise strategies with innovative cloud solutions and technical architectures.

Devang is dedicated to driving digital transformation and strategic growth, utilizing platforms like AWS and Microsoft Azure to deliver optimized business outcomes.

About Tredence Inc.

Tredence is a global data science solutions provider focused on solving the last mile problem in AI. The 'last mile' is the gap between insight creation and value realization. Tredence is a Great Place to Work-Certified and as a 'Leader' in the Forrester Wave: Customer Analytics Services. Tredence is 2500+ employees strong with offices in San Jose, FosterCity, Chicago, London, Toronto, and Bangalore, with the largest companies in retail, CPG, hi-tech, telecom, healthcare, travel, and industrials as clients.

Want to know more about us?
Please visit: www.tredence.com

Follow us at: