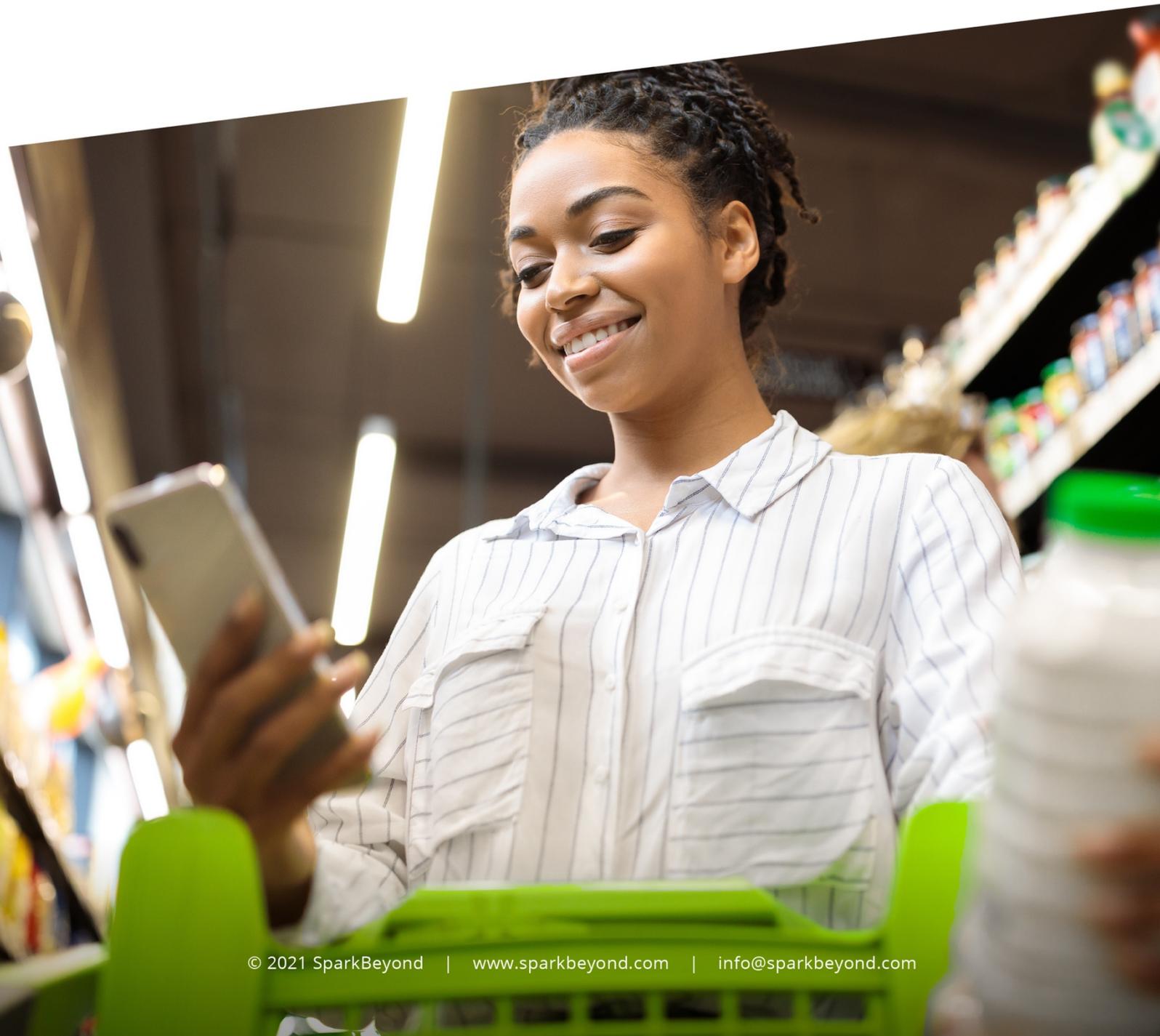


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Data & AI: The New Efficiency of Scale for Global CPGs



The past century of global trade has rewarded the big to become bigger, particularly in goods-producing industries which benefit from traditional efficiencies of scale. And yet, while the CPG industry nearly doubled in size, the total revenue among the top one hundred CPGs in 2003 versus the top one hundred in 2018 actually declined.

Nimble and niche new entrants are not the only source of pressure for established CPGs. Already thin margins will further shrink as discount retail formats grow. Additionally, consumers increasingly reward challenger-brands who demonstrate a core commitment to health & sustainability.

The pace of change, accelerated by the pandemic, is an advantage for the forward-leaning global CPGs who leverage the new "efficiency of scale" to win in the digital age: Data & AI. For example, transparency to consumer demand through increasingly dominant e-commerce and Direct-to-Consumer (D2C) channels and accessible data partnerships enrich the already wealthy data assets available to incumbent CPGs.

SparkBeyond has partnered with a number of leading organizations to take the pulse on how top global CPGs are navigating this inflection point and translating data into insights, intelligence and impact. The imperative for CPGs to capitalize on Data & AI has never been higher, and post pandemic, the gap between leaders and laggards are widening.

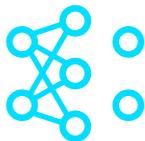


INTRODUCTION

Incumbent CPGs face increasing pressure from both ends of the value chain: at one end, agile challenger brands are stealing market share

while at the other, the changing face of retail is squeezing margins. Do the traditional “economies of scale” - where the big get bigger, leveraging physical scale to capture margins and share - still apply in the digital age?

- CPG giants are seeing meaningful competition from nimble and niche new entrants. As consumer acquisition costs drop, challenger brands increasingly leverage abundant venture funding into digital and experiential channels to capture share. Discovering micro segments of consumers willing to pay a premium for brand intangibles like health and sustainability creates headroom for challengers to win without the margin advantage of global scale.
- High-growth, mass-market e-commerce and D2C channels demand even smaller margins, which percolates through to the CPG bottom-line. Discounters have been able to target the right message to the right consumers for white-labeled products to overcome the brand-equity of incumbent CPGs.



Incumbents must transform core ways of working to match the needs of the digital age. To underscore the size of the challenge: annual sales growth from the world’s fifty largest consumer brands including names like Unilever, Nestlé, and PepsiCo plummeted from 7.7% in 2006-11 to just 0.7% in 2012-16. Brands like BrewDog, Chobani, and the Honest Company captured meaningful share in a span of less than a decade, meanwhile becoming digital-first companies.

M&A alone is clearly not enough; incumbents cannot buy a data-driven DNA.



While physical scale translated to margins through procurement and operations for the last century, “efficiency of scale” is increasingly taking on a new meaning in the digital age. Forward-leaning global CPGs are beginning to leverage this new advantage to drive margin and share, an advantage that is inherent from their scale: wealth of data.

Thriving in the next century will be defined by the ability to leverage data to drive business and social impact.



CPGs are increasingly held accountable for meeting hyper-local consumer demands with a commitment to sustainability. In fact, the two are often interlinked - incumbent CPGs leveraging their wealth of data to better inform the right product demand at the right place and time, also minimises wasted goods, shortens delivery miles and optimises manufacturing. With three billion more mouths to feed by 2050, CPGs - which account for up to 45% of grocery retail sales - have a critical role to play in moving societies towards a more sustainable value chain.

Particularly with 25-30% of Western grocery retail going to waste, **marginal sustainability improvements drive planetary-scale impact; sustainability is good for business.**

Given this pivotal juncture, SparkBeyond's white paper explores the capabilities that CPGs must develop across the commercial areas of the CPG value chain, namely marketing and sales operations. This focus will reveal the depth of the disruption:

Section 1

outlines the opportunity to not only power annual strategic commercial initiatives with AI, but also daily operational decisions. Taking assortment as an example, making data-driven annual store-wide range and planogram decisions is increasingly the norm. Now solutions innovate operational use cases - bringing AI-powered micro-assortment change recommendations to the front line and unlocking meaningful "compounding" impact of better daily decision making; the "blue-ocean" of impact in commercial is not in strategy, but operations.

Section 2

details how CPGs deploy AI to capture sales and margin through "where to play" initiatives and unlock latent demand with "how to win" use cases. For example, "where to play" solutions might direct a field to traditional trade outlets that should be selling more or on-trade POCs that are about to discontinue a brand. "How to win" use cases empower the field with day-to-day accurate intelligence for retailers - from promotions to assortment and in-store execution investments.

Section 3

deep dives into the three changes that have occurred over the past decade and allowed commercial teams to leverage Data & AI to such an extent. (1) Data, (2) Technology and (3) People & Processes have transformed meaningfully over the last five years, permitting the commercial function to rapidly adopt Data & AI. Benchmarks challenge leadership to continuously improve along each of the three vectors.

Section 4

outlines a five-step solution which translates insights to the front line. Each stage allows for an iteratively more intelligent solution, embedding Data & AI into a growing set of "where to play" and "how to win" use cases.

1. CPGs make the paradigm shift to drive commercial operations in an agile world

How can CPG companies realize AI's potential to create value in marketing and commercial? To start with, they need to focus their analytics capabilities on two critical paths:

1. **Seizing strategic growth opportunities**
2. **Establishing well-oiled frontline operations that empower teams to strive for continuous improvement**

With their ability to mobilize well-resourced teams of data experts, established consumer goods companies are competing effectively in their strategic decision-making.

In operations, however, it's a different story.

Frontline teams don't have the time nor the expertise to mine analytics reports. Rather, they need data-led recommendations on which they can act in the required moment.

Overloaded by KPIs and weighed down by restrictive top-down processes designed to compensate for inadequate bottom-up decision-making, large consumer brands are struggling to compete. The agile challengers, on the other hand, are empowering their teams to identify and act quickly upon everyday opportunities.



This can be seen in action when observing field sales teams who are responsible for a large territory of convenience stores.

First, they must map out which stores to visit and how often. But therein lies the problem:

1. There isn't time to visit all the stores
2. The potential for sales growth varies significantly store-to-store

This generates a number of challenges: Which stores should the field team prioritize? What's the

optimal number of visits? When during the day or during the week is the best time to visit? What's the right sales target to manage the team against for each store?

Next, the team must consider what actions to propose to store managers in order to drive sales. This is no easy task when you take into account:

- 1. The diverse, ever-changing landscape of store-sales drivers – given that no two stores are the same, and their needs change from week to week.**
- 2. The myriad different below-the-line levers that influence commercial performance, from assortment to promotions, shopper marketing and shelf execution.**

Getting these decisions right – and winning over store managers – is crucial. On their own, each has little impact, but taken together they can be transformational.



The convenience sector is a key proving-ground for effective, data-driven operational decision making. This is especially true in developed markets where it remains a major source of growth: convenience sales are forecast to grow by 16.6% over the next five years in the UK. After a boost to sales in 2020 from the pandemic, supermarket sales are predicted to increase by just 3.1% in the same timeframe [3].

Early adopters of AI in the convenience sector are already unlocking the benefits of operations-focused solutions. For example, a leading global snacks brand achieved a 1.5% uplift in convenience store sales in a mature Latin American market just by equipping its field team with store-level assortment recommendations [4].

Empowering frontline teams to act independently and strive for continuous improvement isn't a new concept – it forms the backbone of modern manufacturing. The Kaizen philosophy – centered around the compounding effect of small, incremental improvements – propelled Japan to its status as an industrial powerhouse towards the end of the 20th century.

AI promises to bring an equivalent wave of transformation to commercial operations; companies that embrace this change will see a marked advantage over their competitors – large or small.

[3] IGD, UK convenience channel to be worth £48.2BN by 2024

[4] SparkBeyond, AI use case

2. Opportunities to transform commercial operations with AI

Operations-focused AI opportunities in commercial typically fall into two domains:



Where to play?

Directing finite commercial resources to areas of most need, whether that's POCs that should be selling more, or on-trade most likely to discontinue carrying the brand.



How to win?

Empowering commercial teams with targeted recommendations spanning range, assortment, promotions, and in-store execution that allows retailers, bars, on-trade, and off-trade, to drive share and margin.

Unlock future sales potential with “Where to play” use cases

This is the more straightforward of the two, as executing the use cases requires companies to navigate fewer operational complexities.

The revenue upside from directing commercial teams to the right areas remains significant. In Europe, one well-established consumer brand calculated that its share of convenience-store sales increased by an average of 14 percentage points per store after a visit by a member of its field team^[5].

For years, companies have used conventional analytics to answer this question.

Yet these methods only capture **historic trends**, leaving it to commercial teams to infer which stores, formats, channels, categories, or brands demand their attention.

AI changes this by predicting commercial potential and stripping away the element of guesswork.



Capture latent demand with “How to win” use cases

These use cases harness AI to propose targeted in-store actions that stimulate and capture shopper demand. They commonly centre around four areas:



**Assortment
& space planning**



Promotions



**In-store product
placement and
eCommerce media**



Sales execution

Retailers already rely on domain experts from CPG companies for evidence-based advice on strategic decisions relating to assortment, promotions and product placement. Now there is an opportunity to replicate this at an operational level.

Major retailers typically engage Category Managers at least once a year to help select the optimal assortment for their stores. This process uses AI-based solutions to decide how the bulk of the assortment will be distributed.

The remaining slots, usually 10%, are left to store managers to decide locally. But while head-office decisions are often supported by AI-driven analytics, store managers depend on conventional business intelligence reports or gut-instinct.

Now for the first time, it's possible to accurately predict demand at individual store-level. This next generation of demand models paves the way for consumer goods companies to bring targeted, evidence-based recommendations to stores – and making the most of the leftover 10%.

It isn't only the field that stands to benefit; key account managers will be major beneficiaries too.

They come under constant pressure from retailers to solve the latest fluctuations in sales performance, but conventional analytics are inefficient.

The latest AI solutions transform this dynamic by empowering account managers to test millions of different scenarios in an instant. This allows them to propose targeted actions that the retailer can apply, which will shift the dial and capture latent demand.

[5] SparkBeyond, AI use case



3. Why now: overcoming long-standing obstacles to adopting agile solutions in CPG

Companies have been quick to adopt AI solutions to power strategic decision making. But the uptake in operations has been slower because these solutions must keep pace with a faster cycle of decision making, work across multiple domains and deliver recommendations that don't require an expert to carry them out.

Despite these hurdles, three forces are driving a rapid acceleration in the rate of adoption:



Data

Fewer gaps in a CPG's visibility of potential drivers



Technology

New solutions that make it quicker and easier to find data drivers



People & Processes

Changes to the workforce are allowing CPGs to fully utilize AI

Data: fewer gaps in a CPG's visibility of potential drivers

The data landscape has been transformed over the past five years and the effect on CPGs – who rely on retailers and third parties for a significant amount of market and shopper insights – has been fundamental. It has enabled companies to access deeper shopper insights, gain a more accurate read on dynamic market conditions and unlock new opportunities for retail partnerships.



On the shopper-side, data from mobile devices and card payments offers CPGs access to detailed insights on store visits and spending habits, often without the need to purchase data from a retailer, whether directly or via an aggregator.

The global fintech revolution promises to unlock additional opportunities for CPGs, especially in mature markets like the UK that are embracing open banking initiatives. These new services and frameworks give shoppers far more control over their banking data, as well as the ability to link this to data from a wide range of ancillary services



Example:

Digital receipts that are integrated within banking apps could provide a new way for CPGs to connect shoppers with a product purchase.

Open banking may represent the apex of open data initiatives but there are many others that have contributed significantly to the collective understanding of marketplace drivers. Commonly used examples include geographic points of interest, socio-demographics, transport, and the weather.



Great strides have been made across the data marketplace but direct partnerships with retailers remain a key source of insight and a mainstay of CPG analytics.

These are no longer just about EPoS data and loyalty cards as retailers gather intelligence from a more diverse range of sources e.g. in-store cameras. What's more, technological advances are changing the way retailers derive value from their data.



Example:

A new approach called blindfolded analytics enables retailers to sell insights found within the data rather than the data itself.

In this insights-as-a-service model, AI platforms sit between the CPG and the retailer and automatically surface patterns that the CPG can act upon without needing to access individual data records. In doing so, retailers can monetize data that may be commercially sensitive or is subject to data privacy protections.

Besides the ability to unlock deeper and broader insights, these technologies may also facilitate more direct data partnerships between retailers and CPGs as it will reduce the need for an intermediate agency to process and translate the data.

Technology: new solutions that make it quicker and easier to find data drivers

CPGs need to reflect the diversity of the markets they operate within, but this poses a challenge: how do you build scalable AI solutions that support a decentralized business model?

For all AI use cases, data scientists rely upon a suite of tools and processes to ingest and transform data and insert it into a storage solution or app. Before cloud-based technologies reached maturity, building this infrastructure was both costly and time consuming – local differences in the data stack had a knock on effect on how data needed to be ingested, processed and stored.

Enterprise-grade cloud solutions cut through these difficulties by enabling companies to spin up storage solutions as and when needed and make use of an ecosystem of third-party solutions to cope with diverse data ingestion and transformation needs. For large CPGs like ABInBev, which has been migrating its physical data centres to Microsoft's Azure Platform, these technologies pave the way for centralized analytics centres of excellence that remain in step with operational realities on the ground^[6].

Further downstream, CPGs are embracing automated driver discovery platforms to enable insights generation at scale without sacrificing local market understanding. Previously, data scientists would search for correlations manually – a process which is slow, relies heavily on local market understanding and is difficult to refresh. By relying on a machine to surface potential drivers, AI solutions can be scaled quickly across geographies but still capture the individual dynamics of each local market.



People and processes: changes to the workforce that allow CPGs to fully utilize AI

Data quality and coverage both affect the process of driver discovery, but companies are beginning to get out of the mindset that the search needs to be exhaustive.

The data needs to be sufficient to materially reduce the level of uncertainty surrounding a decision, not to eliminate uncertainty altogether.

Driven by this skills shortage, new solutions are beginning to emerge that accelerate a data scientist's workflow by automating key activities such as driver discovery and model building. Automating driver discovery saves data scientists from the painstaking process of searching for correlations that prove or disprove an individual hypothesis by allowing them to screen millions of hypotheses at once. This also reduces the potential for bias as it is no longer incumbent on data scientists to determine which hypotheses to test; instead they can concentrate on selecting the most relevant to use as insights or building blocks for a machine learning model.

These solutions also lower the technical barrier to entry for machine learning so, whilst they are still primarily aimed at making a data scientist's job more straightforward, they are beginning to enable business analysts to take on more of a lead role - bringing us a step closer to the democratization of AI.

[6] Microsoft, ABInBev: Bringing data together on a global scale



4. The 'How-To' Guide: AI-driven operations solutions are transforming frontline commercial team decision-making

AI-driven operations solutions have enormous potential to transform decision-making across frontline commercial teams. Its adoption is the furthest advanced among field teams. These teams are using these solutions to identify stores with high potential for revenue growth and to propose targeted actions to increase brand share within individual stores.

There are a few key reasons why the field are embracing operations solutions.

The first is that the size of the opportunity is significant, particularly in the convenience channel where growth has consistently out-performed big box retailing but store execution varies greatly. To underscore this point, a large consumer goods company recently discovered that its share of convenience store category sales in a key European market rose by an average of 14 percentage points following a visit from a member of its field team.

Second, the data landscape for explaining store performance is evolving rapidly, with valuable new datasets from sources such as public transport APIs and mobile GPS data becoming available.

Building a field solution is a continuous process, so the team tasked with delivering the solution should sit as close to the business as possible to capture user feedback and support iterative cycles of development. Typically, this is led by a sales analytics team sited within the commercial business unit.

The build programme for a field solution should also have a dedicated data strategy that ensures the data stack continues to evolve over time as new sources of data emerge. This should allow for fast test-and-learn cycles to evaluate new providers and establish whether their data surfaces new, actionable sales drivers.

A complete field solution should address a complementary mix of “Where to play?” and “How to play?” use case and possess the following key attributes:

- ✓ *Propose stores to visit and actions tailored to individual stores*
- ✓ *Vary recommendations based on commercial need, i.e., if churn is a risk, actions should centre around this, not maximising sales or profit*
- ✓ *Be refreshed on a regular basis to capture changing retail dynamics*
- ✓ *Display the drivers behind a recommendation to help the field influence the retailer*
- ✓ *Possess space for the field to comment on the store’s characteristics*

In most cases, development begins with “Where to Play?” use cases, since the output is straightforward and doesn’t need to be refreshed on a regular basis. Subsequent iterations will then focus on “How to play?” use cases for an increasing number of functional domains, ie, assortment, promotions, etc. From this point, companies can explore digital, tablet-based delivery mechanisms to support dynamic insights and capture the ground truth. They can then also begin to implement “How to play?” use cases that correspond to multiple different commercial goals.

AI Analytics: powering solutions when the stakes are high

As AI for commercial operations on consumer goods companies unlocks effective bottom-up decision making across both business and sustainability dimensions, frontline teams – and particularly those who interface with retailers – are likely to find themselves entrusted with even greater decision-making authority and influence, and an increasing share of investment.

The economic shock created by the pandemic and its recovery has already highlighted the competitive advantage of effective deployment of AI analytics. No longer does physical scale translate to margins through procurement and operations. Instead, forward-leaning global CPGs are leveraging their data to drive margin and share, nurturing it as a strategic asset and applying it in ways that have a concrete impact on their business.



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