

The Age of Insight



How **Consumer Products and Retail** organizations can accelerate value capture from data



Introduction

Today, organizations not only have more data than they have ever had before – they also have the greatest chance of turning that rich stream into a sizeable competitive advantage: getting closer to consumers, optimizing operations, and launching new products/services rapidly.

In the consumer products and retail (CPR) sector, two main applications of data are emerging:

- Consumer data – from transactions to demographics, consumer connectivity to localization.
- Product data – from stock identification to localization, real-time control to greater granularity.

Delivering value in these areas needs to take account of emerging trends and disruptions. Consumers are demanding greater personalization and seamless omnichannel experiences while asking for better control and awareness of their data. They also have diverging needs; at times they may need convenience, at other times they look for deeper indulgence. Whatever the driver, they still expect a consistent experience across all channels.

Companies are also challenged with the phase-out of third-party cookies that contain information about consumers' online activity. The online link to consumers is changing, with web browsers Firefox and Safari already retiring third-party cookies, and Google slated to do so with its Chrome browser next year. Furthermore, consumer habits that emerged during the pandemic – such as a preference for touchless experience or in-store pickup – are evolving in unexpected ways. CPR organizations need to respond to changes such as these by quickly adjusting their business models and products/services. Data and analytics will be at the heart of these decisions.

Similarly, the sector's supply chain was massively disrupted during the pandemic, underscoring the importance of real-time data and analytics models. As CPR organizations build greater resilience into their supply chains, they need to prioritize closer connections within their ecosystem and employ more real-time and hyper-local data.

In our previous report on data-powered enterprises, we assessed around 1,000 organizations across 10 sectors – including CPR – on their ability to derive value from large and growing volumes of data. We found that there were only a handful of high-performers – what we call the “data masters.” In this new research, we looked exclusively at the CPR sector and found that this is also the case in the sector – data masters are few and far between. In fact, CPR organizations lag behind the overall cross-industry average in several key aspects of data maturity. In this report, which draws on a survey that was sent to CPR executives in both business and tech-facing roles, as well as extensive secondary research, we investigate why this is the case, what can be done about it, and what we can learn from data masters, looking at a number of areas:

1. How are CPR data masters leveraging data to build a competitive advantage and further their sustainability agenda?
2. What do CPR data masters do differently to derive business impact?
3. How can CPR organizations achieve data mastery and bring greater innovation and resilience to their business models?

“In the past too we've always used history: what [did] we sell [in a] similar week last year? [But] now we can actually scrape other people's websites to see what they've got on promotion. We can have a look at social media and see what events are happening. And you also know the individual buying patterns of your members or customers so you can anticipate what they're going to purchase.”

.....
Kathryn McLay
Executive VP, President & CEO of Sam's Club at Walmart.¹

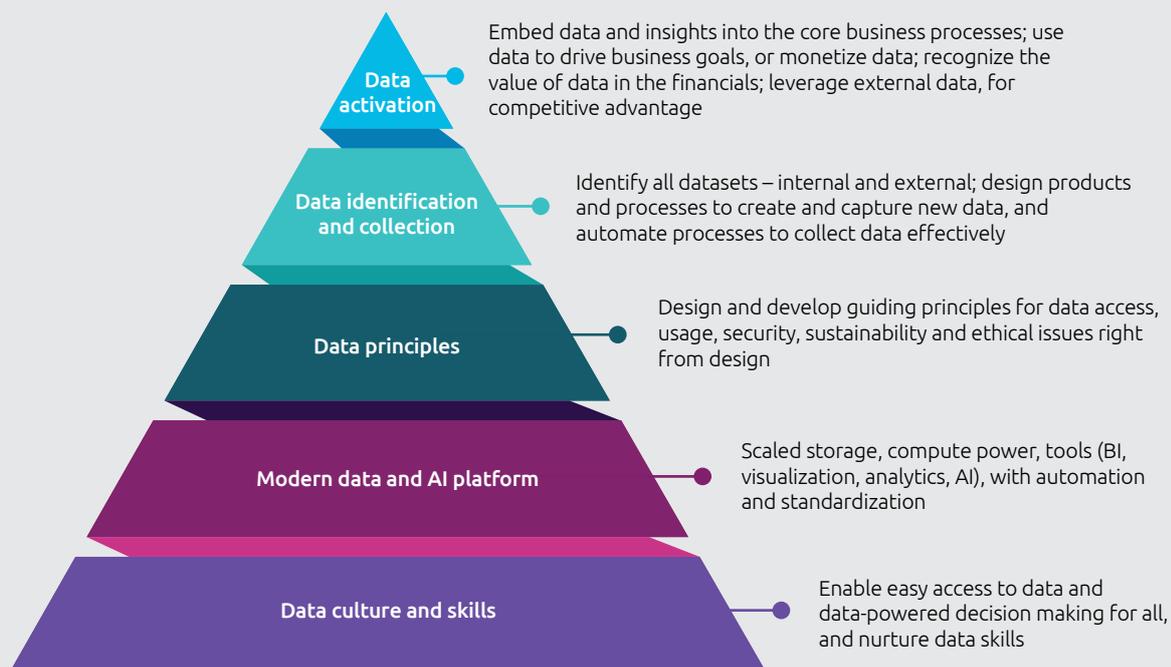


Defining the “data-powered” enterprise

We define a data-powered enterprise as an organization that can create, process, and leverage data proactively to fulfill its corporate purpose, achieve its business objectives, and drive innovation.

Here, “data” is the digital representation of an organization’s past and present, encompassing its processes and interactions with consumers, ecosystem, and market.

Figure 1 A data-powered enterprise leads in all of the below aspects:



Source: Capgemini Research Institute..

Executive summary

Data is a significant enterprise asset: leading CPR organizations treat data as a foundational element and infuse it across their business processes, from strategy to operations, marketing to customer support.

Our survey of the data practices of over 200 CPR organizations shows that a small cohort of data-powered organizations are gaining a significant edge in terms of their market share, profitability, customer engagement, and sustainability performance. The gap between the sector's leaders – who we call the 'data masters' – and those bringing up the rear widened during the pandemic. Data-powered CPR organizations responded better to the pandemic and emerged stronger, armed with a robust understanding of changing consumer behaviors and their own operations. Our survey analysis shows that only around 16% of CP organizations qualify as data masters, and this drops to just 6% in retail.

The practices and approaches of the data masters show the way forward for those who want to catch up. Data masters, for example, have taken steps in terms of both data foundations and data behaviors:

- Implement superior data management practices, such as automating data collection, combining external data with internal data for insight, and underpinning all steps with the principle of data quality.

- Build data storytelling skills at all levels, create trust and alignment among IT and business executives on data models and algorithms, and eliminate data silos by implementing enterprise data lakes and migrating data to cloud.

And, as a result, they are reaping the rewards: 73% derive quantifiable value from their data and deliver a 30% higher operating profit margin compared to the CPR industry average.

Four steps are critical to achieve this level of performance and reward:

- Foster a data-powered culture and empower teams with data at the point of need
- Modernize the data platform for faster implementation of insights
- Strengthen trust in data with the right data governance and data ethics
- Plug into external data ecosystems to enable new business models and thoroughly understand consumers and operations.

1 – How leading CPR organizations are using data to gain a competitive edge

CPR organizations that entered the pandemic with strong foundations in data were better positioned to respond to the situation and emerge stronger, armed with a robust understanding of changing consumer behaviors and their own operations. In response to the pandemic, **Walmart** launched a two-hour delivery service. Powered by algorithms, Walmart could optimize delivery time using a number of variables. By December 2020, its market share in online groceries surpassed Amazon's.^{2,3} Leading CPR organizations continuously fine-tune their operations to incorporate data-powered decision making and generate tangible business value.

Launching innovative products/services and business models at speed using data

Data-powered CPR organizations are able to turn data into new growth engines – they launch new products and services, implement new business models and build a competitive edge using data. Around 31% of CP and 38% of retail organizations were able to introduce new products/services by harnessing data. Similarly, 37% of CP and 40% retail organizations were able to introduce new business models using data. As a result, almost a third of CPR organizations have created sustainable competitive advantages through data.

Below are a few examples of where enterprise-wide change was enabled throughout multiple teams across the organization to take action based on data:

Developing innovative new products/services and reducing time to market for new offerings

1. Gap Inc. uses data to drive mass personalization in consumer engagement and product development:

Gap Inc. created 12 potential target segments in the US apparel market, using market-based data. It then applied data science to place its 74 million customers from the last two years into these target segments, using a variety of factors, including demographic, psychographic, geographic, third-party data, and other overlays. The retailer selected 2–3 target segments for each brand. It helped the retailer clarify brand positioning, drive mass personalization, and inform product development. It customized marketing content, e-mails, and on-site experiences based on consumers' channel preference, loyalty status, product affinity, etc. As a result it was able to personalize 74% of its website visits; 80% of e-mails, and 80% of product presentation. Such data-driven strategies have brought Gap Inc. to the number-two position by apparel e-commerce sales in the US.⁴

2. Food tech startup uses AI to introduce a unique plant-based beverage, distributed through Whole Foods:

While plant-based milk appeals to consumers on health and sustainability grounds, particularly to those who are lactose intolerant, brands are challenged in driving long-term consumer appeal in areas such as taste and texture. As a result, 33% of first-time users of plant-based milk switch back to cow's milk after their first try of the plant alternative.

Chilean start-up NotCo's plant-based "NotMilk" was developed using AI. The company used a database of plant and plant-based ingredients to analyze food molecules and generate combinations that best match cow's milk. The end result, according to NotCo and as per consumer reviews,⁵ is a final formula that is much closer to cow's milk in taste, color, and texture. With AI, the company was able to try innovative combinations that resulted in combining cabbage and pineapple to recreate the taste of milk, which is not a combination that a human would have intuitively reached.⁶

Using data for business model innovation

PepsiCo launched two new direct-to-consumer offerings – PantryShop.com and Snacks.com – to meet the increased consumer demand they saw when the pandemic challenged supply chains. In doing so, it successfully implemented an online retail model in less than 30 days from conception to completion. Behind PepsiCo's direct-to-consumer websites, there is a combination of data insights, technology, inventory, and resources. Insight into online consumer purchase behavior is sharpening PepsiCo's understanding of consumer tastes, allowing it to test and learn quickly, informing its merchandising and messaging for the offline channel as well.

Snack sales for PepsiCo increased by 7% and beverage sales increased by 3% y-o-y in the third quarter, ending in September 2020. This uptick took place at a time when the pandemic was creating physical retail lockdowns and supply chain challenges.^{7,8}

XX%

Ucidemqu idebis delende liquam
quatemq uiberorior secaborerae.
Nectibus doluptas



Optimizing business activities across the organization with data

CPR organizations can leverage data across their activities, from consumer insights to category management, fulfillment to consumer experience. They are solving their specific business challenges by activating data within a function/area of activity, such as marketing or procurement. For example, AbInBev, the largest beer company globally, only had a limited view of consumer engagement data across its brands due to multiple data silos, resulting in inconsistent consumer targeting. When it invested in a consumer data platform, it was able to create unified consumer segments from disparate consumer profile data across its brands. This improved their ad target efficiency by 30%.⁹

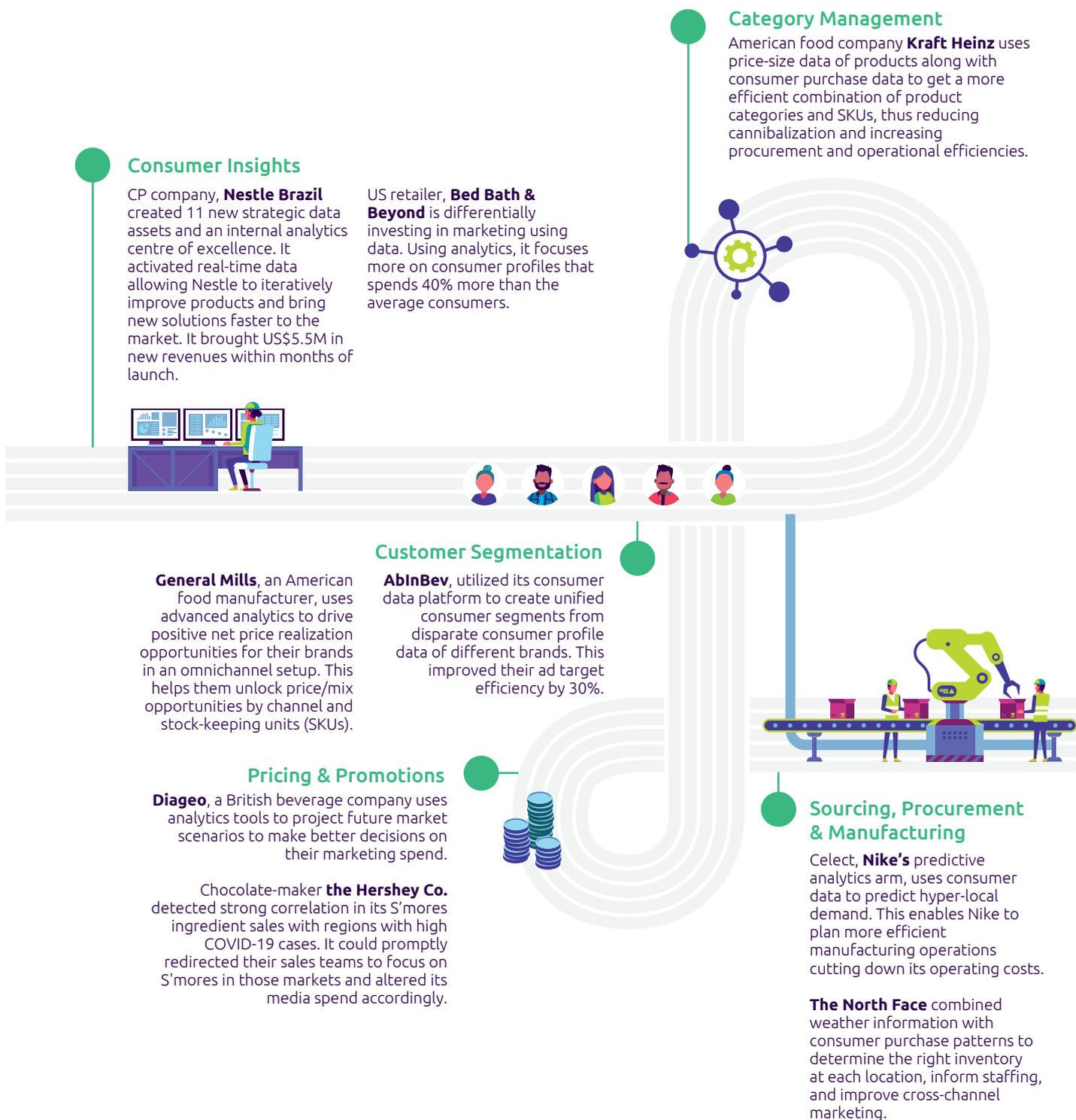
Similarly, by moving two years of historical data into the cloud, Unilever could better manage transport routing, increase efficiency, and reduce its carbon footprint. It cut the planning time for transport operations by a factor of ten.¹⁰

Data analytics use cases are not confined to a particular function or business process. Instead, active collaboration between sub-units within an organization drive larger overall impact. For example,

the Kellogg Co. gathers signals to predict the risk of stock-outs at a leading e-commerce portal. It triggers necessary actions to resolve those issues, such as notifying buyers to reorder, updating demand forecasts internally, and altering the item's promotional activity. This helps in better inventory management, improves the company's search rankings (as these are connected with the in-stock position), and ensures effectiveness in promotional spending.¹¹

We have identified many leading practices of CPR organizations that can have a positive impact on organizations' revenues and profits (see Figure 2).

Figure 2 Leading analytics use cases across the CPR value chain¹²



Source: Company earnings call transcripts, press releases and news articles.

Fulfillment

Odlo, a European performance clothing manufacturer, uses a logistic planning tool that connect all its suppliers' data with demand data. This allows Odlo to manage fulfillment of demand across channels more efficiently

Target, an American retailer, employs an automated robotic program to allocated units to boxes curated for aisles in store. This helps cut down the time to shelf for inventory.



In-store Analytics

Tractor Supply Co. is digitizing its stores to use the data for analysis and provide insights to drive in-store personnel efficiency, prompt promotions, and increased sales per square foot.

Sainsbury, a UK supermarket chain, uses a concealment detector technology where machine learning is used to detect shop theft.

Customer Experience & Feedback

KÜHL, an outdoor apparel manufacturer, has partnered with Lucidworks to capture shoppers' signals from their website and use ML to create better shopping experiences thereby driving higher conversion.

The **Nike Fit** app uses data science, machine learning, AI, and computer vision to develop a foot morphology from user feedback, which enables Nike to design better products and reduce returns/replacements on online orders.



Assortment & Space Planning

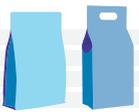
Tractor Supply Co., an American home improvement supply retailer, has a channel-clustering and assortment-optimization tool to efficiently allocate products to spaces enabling the company to improve inventory precision and increase product margins.



Packaging, Distribution & Logistics

Lowe's, a home improvement retailer, uses AI with an advanced delivery scheduling technology to get insights for demand forecasting and assortment planning, for optimized delivery costs and enhanced omnichannel performance.

US-based food processor **Tyson Foods** is using data to cut freight costs by optimizing wait time while loading or unloading of trucks in its supply chain. It uses data to identify facilities with the highest wait times and adjust shipment volumes.



Leading CPR organizations are enhancing sustainability through data

According to a previous survey we conducted into sustainability's impact on consumer preferences,¹³ 79%

of consumers are pivoting toward more sustainable products and services. Also, 77% of organizations say that sustainability approaches increased consumer loyalty and 63% said it led to a revenue uptick. Data and analytics is one of the key sustainability enablers and close to half of the organizations (47%) are investing in AI/ML and IIoT sensors to drive their sustainability agenda.

Examples include:

		
<p>IKEA is using AI to optimize reverse logistics waste. IKEA maps its entire store, fulfillment, and distribution network and uses AI and data analytics to identify the next-best possible location for returned items. This means returned items can be recycled or sold, reducing the amount of returned merchandise that ends up in landfill. The use of AI makes this model scalable to all geographies.¹⁴</p>	<p>Unilever partnered with Google for sustainable commodity sourcing. By combining cloud computing, digital imagery, and AI, the organizations build a view of how its supply chain interacts with forests, biodiversity, and water cycles. This enables Unilever to increase sustainable sourcing standards and advise its suppliers, with a positive impact on deforestation and recycling of natural resources.¹⁵</p>	<p>LG TurboWash 360 washers and dryers not only detect the volume and weight of each unique laundry load, but also use AI and advanced sensors to identify fabric types in each load. Using AI, the washer compares this information against more than 20,000 data points related to washer usage to program the optimal wash cycle setting. This capability improves cleaning performance and extends the life of garments by 15%, which in turn reduces the impact of textile and garment waste on the environment.¹⁶</p>

CPR organizations are also using data and analytics to implement circular economy business models.

Companies are creating new business models based on data that was not traditionally collected or analyzed. For example, Dutch aWEARness, a work-wear company, has created a digitized supply chain for "circular work-wear." It offers office clothing on a contract basis, which effectively means they maintain ownership of the products. As the clothes get worn out by use, they are collected, shredded,

and woven back into new garments. This is achieved without any waste of material or compromise on quality. Behind this offering is a digital and data-enabled supply chain that uses a technology called Circular Content Management System (CCMS). CCMS captures data on raw materials from suppliers, product lifecycle, and usage data from consumers using bar codes. Consumers can get information on traceability, the sustainability of raw materials, and lifecycle indicators. CCMS helps keep track of the garment and enables return after use.¹⁷

2-What CPR “data masters” do differently

While it is true that some organizations are winning in the market with data, only a minority of CPR organizations have a strong foundation in data-powered decision making.

High-performing “data masters” are rare overall, but particularly so in the CPR sector

In our previous report, The data-powered enterprise, we divided over 1,000 organizations based on their data maturity, assessing all respondents against two dimensions (see Figure 3):

- Data foundations: the necessary tools and technologies which an organization can use and leverage data
- Data behaviors: the DNA of the organization as it relates to people, processes, skills, and culture.

Figure 3 Leading analytics use cases across the CPR value chain



Source: Capgemini Research Institute.

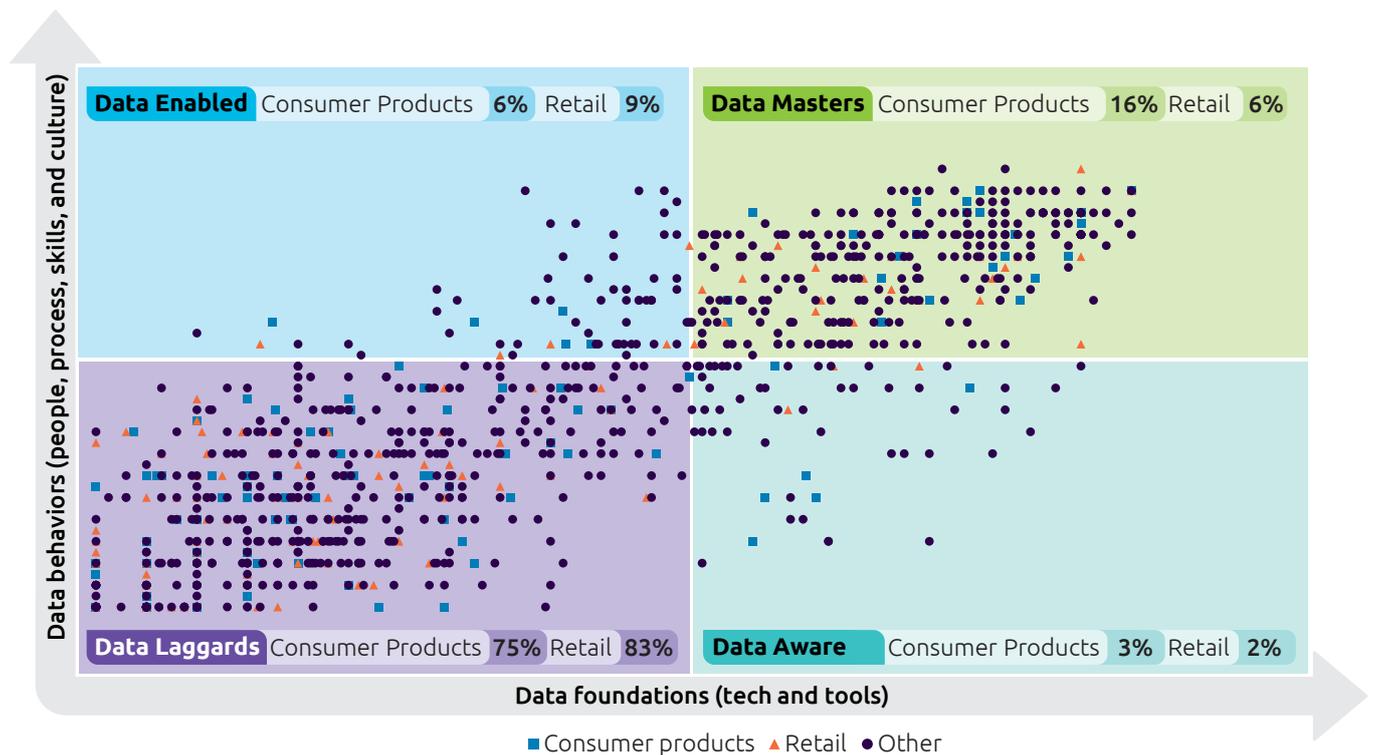
Based on this analysis, we identified four cohorts, ranging from high-performing “data masters” to “data laggards.” In this latest report, we use the same benchmarks to assess CPR organizations (see the insert on “The elements of data mastery” above).

Figure 4 shows how companies perform in the sector’s two segments, CP, and retail:

- While 16% CP organizations are data masters, only 6% of retail organizations qualify.
- The majority of CP (75%) and retail (83%) organizations are data laggards, compared with the overall cross-industry average (71%).

Note: While the sample size of CPR data master organizations is low, these organizations show structural strength in data behaviors and foundations, based on industry-wide cut-offs for data mastery.

Figure 4 Only 16% of CP organizations and 6% of retail organizations are data masters



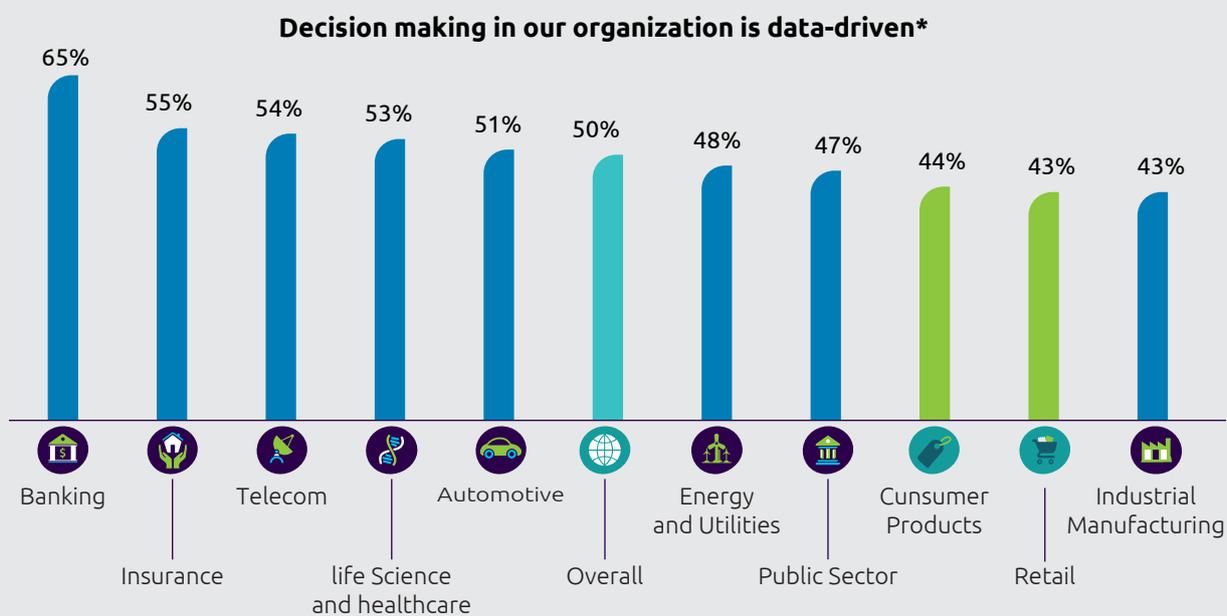
Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products manufacturing and retail organizations each.

Lack of talent, data silos, and trust are top obstacles for CPR organizations on road to data mastery

In our survey, CPR companies lagged other sectors when it comes to making data-powered decisions.

For example, 65% of banking executives said that decision-making is data powered at their organizations, and this drops to 44% in CP and 43% in retail (see Figure 5).

Figure 5 CPR organizations lag in data-powered decision making



*Percentage of organizations agreeing to, "Decision making in our organization is completely data powered."

Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products and retail organizations each.

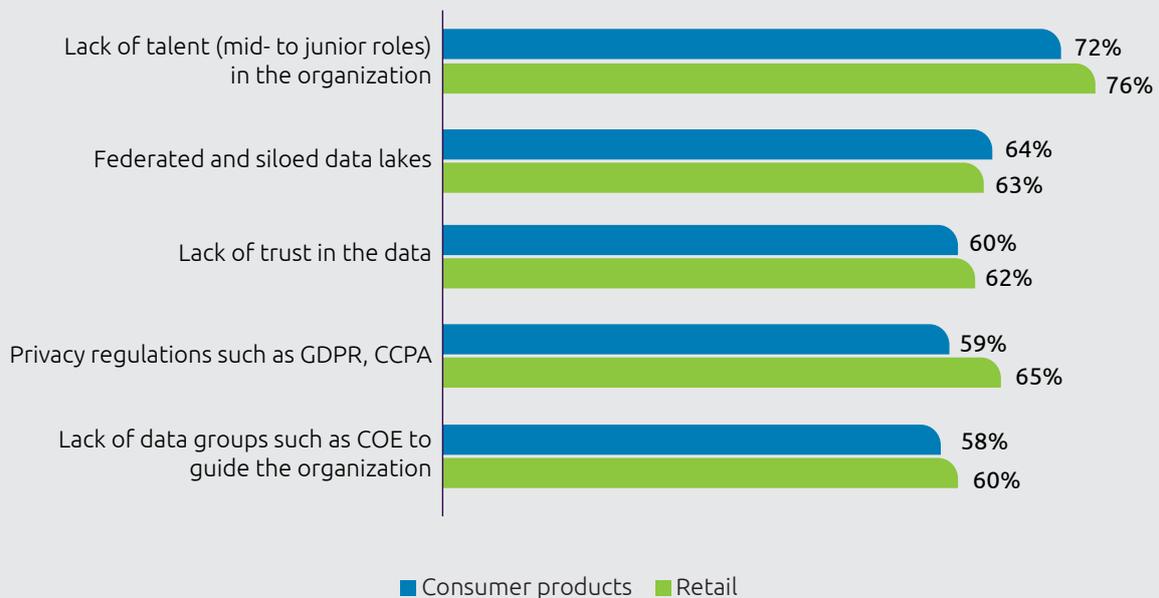
CPR organizations face a variety of obstacles including related to technology, strategic alignment, or operations. Retail organizations are more affected by privacy regulations than their CP counterparts.

Trust and privacy of data have assumed prime importance as both of these feature among the leading obstacles to data mastery.

Figure 6

Lack of talent at mid-to-junior levels is the leading challenge at CPR organizations in becoming a data master

Leading challenges in for becoming a data-powered enterprise for CPR organizations



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products and retail organizations each.

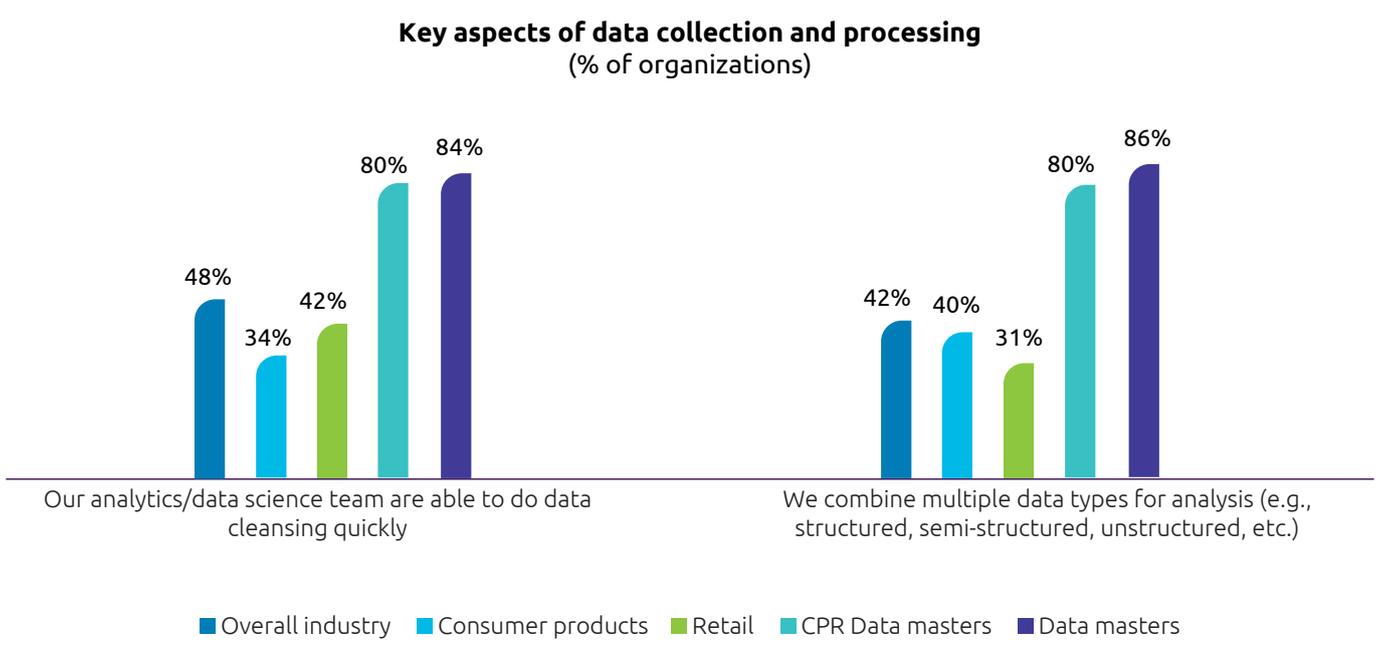
Data foundations: CPR data masters excel at data management practices

Data-powered organizations start with the right technologies and processes to access, store, retrieve, process, and harvest data:

- **CPR data masters address gaps in data collection, cleaning, and enrichment to gain a full view of consumers and operations:**

Over 60% of CPR organizations are yet to automate data collection, consuming precious time that could otherwise be spent for generating insights. Even after collecting data, most are not able to clean it quickly. Furthermore, only 40% of CP and 31% of retail organizations are able to combine multiple data sources – including structured, semi-structured, sensor data, web analytics, etc. – compared with 80% of CPR data masters.

Figure 7 Less than half of CPR organizations are able to cleanse data and combine multiple types of data for analysis



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products manufacturing and retail organizations each, N=22 data masters organizations in CPR.

This cumulative impact is a lack of data-powered insight to support decision making and monitor operational performance. For example, mass personalization cannot be achieved unless multiple data sources and formats are combined to form complete view of consumer interactions.

Data master organizations are different. For example, building a strong data foundation helped grocery retailer, Kroger, to enable personalization for 95% of online consumer interactions, improving engagement levels and doubling the likelihood of adding an item to cart.¹⁸ Similarly, beauty products company, L’oreal countered the lack of first-party consumer data through service

innovation. It has launched multiple AR/VR based tools to help consumers understand their skin better and personalize their skin routines. It gives L’Oreal a huge leg up in capturing insights for product marketing and development.¹⁹

- **CPR data masters unify data assets better to leverage existing data for insights:** In CPR today, the consumer journey is increasingly complex, as consumers want to move seamlessly between offline and online touchpoints. Companies therefore need to use all of their existing data sets for analysis of consumer journeys, and a number of high-performing companies are achieving this aim:

- **Dairy Farm Group**, a major food and personal-hygiene retailer in Asia, built APIs that connected over 50 of its internal and external systems, including POS and e-commerce, to enable a consistent and real-time consumer experience using its online and offline channels. Crystal Chan, IT Director at Dairy Farm, said: *“[Now] we are able to connect different systems from multiple brands using an API-led approach to roll out new services in a reduced timeframe. With an omnichannel customer experience across all our brands, we can better manage each customer’s journey and their preferred communication channels.”*²⁰
- **Unilever** created a dedicated analytics capability – the People Data Center – to deliver consumer insights at scale across its 37 markets and three product divisions. *“There are two big elements for me: the data and the tools we blend,”* says Paul van Gendt, CMI Director for the People Data Center, Unilever. *“We are mixing a number of different data sources using a range of tools that we have compiled in a custom fashion, using best-of-breed data sources and tools, to bring together an integrated set of insights rather than data from a single source.”*
- Similarly, FrieslandCampina, one of the largest dairy companies globally, fed data on the raw dairy products received from its network of 18,000 farmers into its systems on a daily basis. But with manual entries at different points of the process, data quality became a challenge, with inaccuracies and data duplication. It

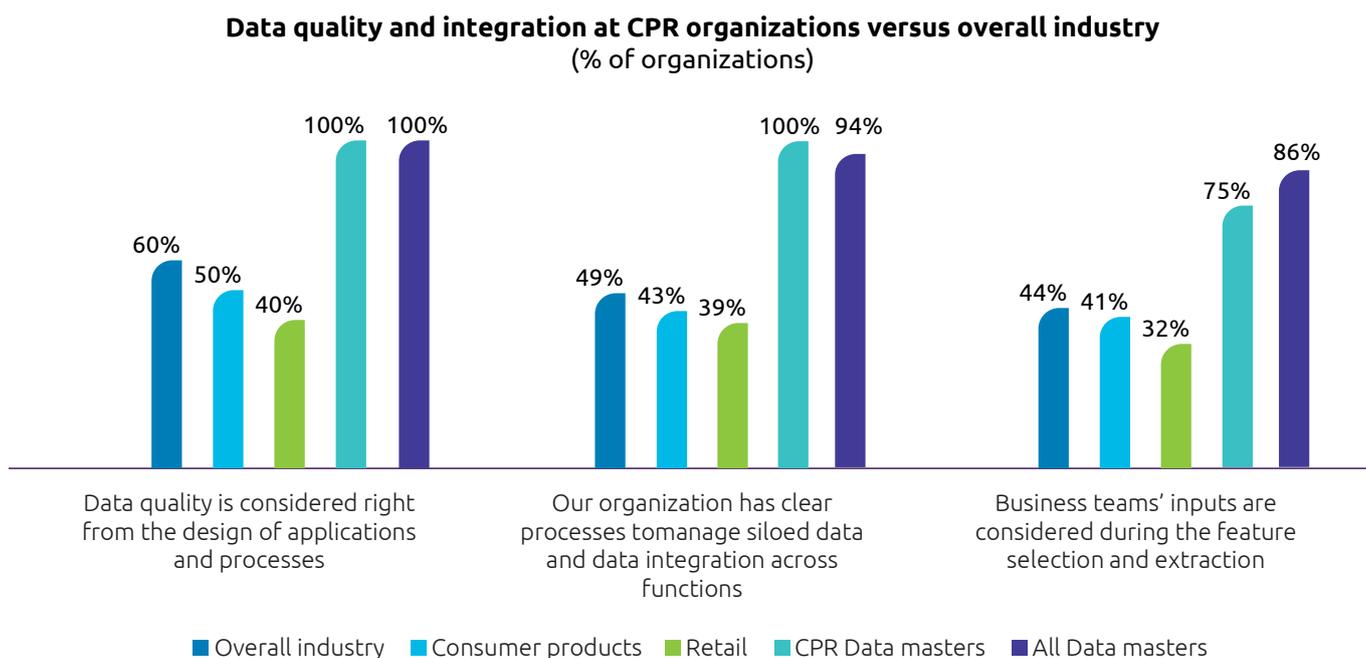
implemented an automated solution to capture data once and disseminate it across all sources, thereby moving to a “single version of the truth.”²¹

However, less than half of the sector’s organizations (41% for retail and 48% for CP organizations) have a complete picture of their entire data inventory. This limits their ability to apply business intelligence, analytics, and AI solutions to their data assets. This reflects a number of issues: lack of alignment between business and IT teams, suboptimal governance, and inadequate technology infrastructure to leverage data. (Section 3 of this report looks at this issue in more detail.)

Data behaviors: CPR data masters have established the right data processes

The data masters also realize that building winning algorithms or models is not the difficult part. What is more challenging is to get business users to use it to catalyze change in how decisions are made throughout the organization. This is about having the right processes (see **Figure 9**). For example, all CPR data masters factor in data quality when they begin designing applications and processes, compared with 50% in CP and 40% in retail.

Figure 8 Data masters have robust processes for data quality, data integration, and seeking stakeholders’ inputs

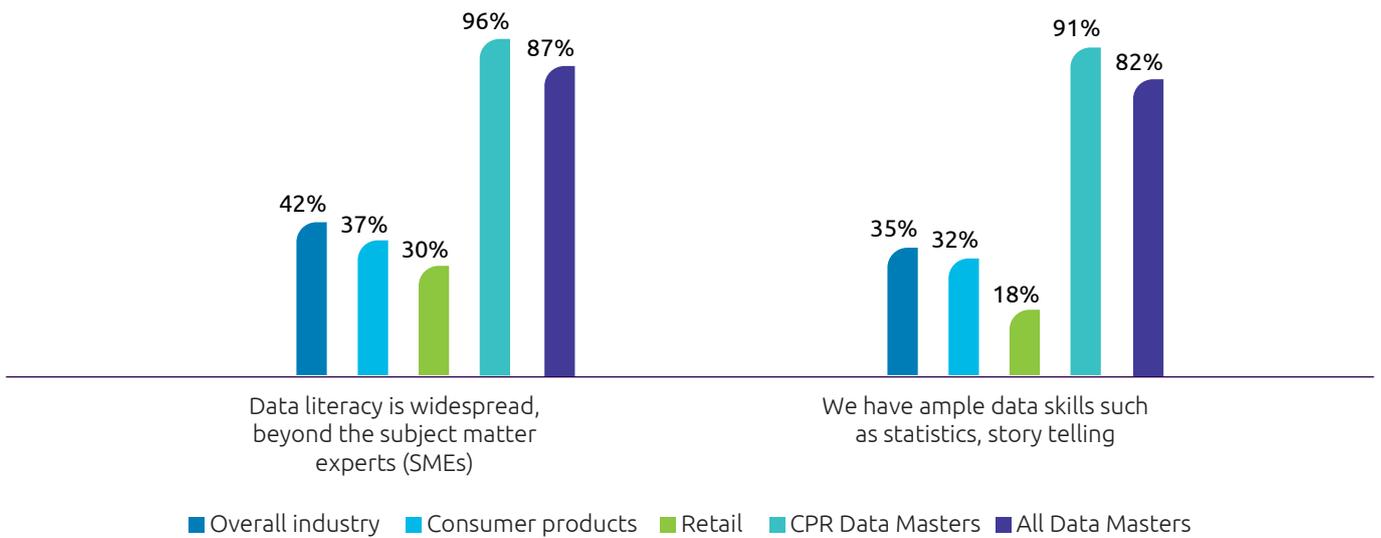


Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products manufacturing and retail organizations each, N=22 data masters organizations in CPR.

Data master organizations focus on broadening data literacy and skills. This is in sharp contrast with the overall sector. Nearly 68% of CPR organizations face a shortage in the skills required to become data powered, and 67% also said that

data literacy at their organization is mostly limited to subject matter experts. Companies in the sector also pointed to a lack of basic data skills, such as statistics and storytelling with data.

Figure 9 CPR data masters focus on broadening data literacy



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products manufacturing and retail organizations each, N=22 data masters organizations in CPR.

Business users need to have an understanding of data management. Without this, they will not be able to confidently make data-powered decisions about a range of critical areas, from inventory to trends in the competitive landscape. For example, they need to be able to answer questions such as: Is the data source legitimate? Can we collect and process this consumer data? How can we quickly test the quality of our data?

While organizations often see a lack of data scientists and other technical data management roles as the prime challenge, data master organizations see it more broadly – including how their people make data-powered decisions, how sensitized they are about trust and privacy issues, and whether they can use data for storytelling. As a C-level executive at a major beverage company in North America told us, *“We look for people who are data savvy, not afraid to use it and have the habit of using it. Then we also provide internal courses if they want to pursue specific data science or data analytics or even just statistics classes to brush up on things. And then, through our work processes, there are plenty of opportunities where we can, as a leadership team, drive data-driven behaviors. It is all in the form of asking questions, or just ensuring that the decisions are not made based on how people feel about something, but on data.”*

To educate all users of data, US-based CP company Mars Inc launched Mars DataWiki. Aniruddha Govande, digital foundations director at Mars told us, *“We are investing big time in how do we educate our business [about data]. Last year, we launched an initiative, Mars Data Wiki. It is our Wikipedia about every data that we are democratizing in the company. We have a data council which creates meaningful content around what does data mean for the business, how they should use it in the context.”*

As a result of strong maturity in different aspects of data foundations and data behaviors, 62% of CPR data masters achieve scale with their AI/analytics proofs of concept (PoCs) and 73% of them derive quantifiable value from the data. However:

- Only 30% of CP organizations are confident of scaling AI/analytics PoCs at an enterprise level, and this drops to less than one in five (19%) for retail.
- Only 38% of CP and 35% of retail organizations say that they derive quantifiable value from the data they collect, compared with 47% across industry.

3-How can CP and retail organizations unlock business value through data?

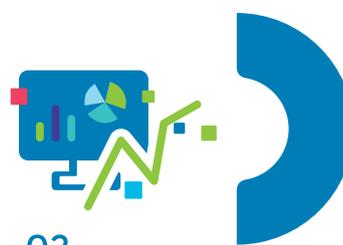
Data mastery is critical for success in today's markets and offers significant benefits. Our survey shows that data masters in the CPR sector enjoy 30% higher operating margins compared to the average.

Four areas are critical for organizations that want to turbocharge their data mastery journey:



01

Foster a data-powered culture and empower teams with data at the point of need.



02

Modernize the data platform for faster implementation of insights.



03

Strengthen trust in data with the right data governance and data ethics.



04

Plug into external data ecosystems to enable new business models and deeply understand consumers and



1. Foster a data-powered culture and empower teams with data at the point of need

Carefully executing each element of strategy through data is a key ingredient of a data-powered culture. Companies need to revisit their decision-making processes and infuse data into all aspects, starting from corporate-level strategy. It all starts with senior executives as they formulate the right questions, hypotheses, and assumptions, and then look for answers through digitally enabled data. To build the right culture and people capability, a number of steps are critical:

Lead with digitally enabled data to evaluate analytics implementations

Making extensive use of multiple sources of digitally enabled data requires leadership role-modelling and other people-focused changes. As Ignacio Marinas, global data & analytics officer at Danone, told us, *“Top management should be convinced that a data-driven approach is right and pull the people – the data analysts and the ones facing the business – to make propositions based on data. We can even add motivation factors like bonuses in bringing data to use.”*

Total commitment from the entire C-suite to harness data for every key decision is required. Data-powered organizations also place data at the heart of every decision and test each implementation using real-time or near real-time data. When Reynolds Consumer Products (RCP) began its intelligent factory initiative to streamline manufacturing and supply chain operations, its leaders placed data at the heart of every decision. *“It’s not only about the data, it’s about showing people how to turn the data into insights and the insights into action to achieve business benefits,”* said Rita Fisher, CIO and SVP of supply chain at RCP.²²

XX%

Ucidemqu idebis delende liquam
quatemq uiberorior secaborerae.
Nectibus doluptas

Build cross-functional teams to transform workstreams through data and deploy self-service analytics

To embed data-led decision-making, organizations can begin by setting up cross-functional teams that tackle specific, business-critical work streams. For example, this could be about transforming one aspect of the consumer journey, such as search, selection, checkout, consumer service, etc. (and then actually looking at individual components of each aspect, such as pricing, assortment, fulfillment, etc.). Transformation will only be possible if organizations bringing together different functions - such as marketing, IT, and supply chain – to design the solution.

Etsy, for example, makes use of product “squads” made up of a product manager, engineers, designers, and analysts, who are given sufficient flexibility to work on smart technology initiatives. Squads are given a specific problem to tackle, along with a measurement metric to determine success, such as gross merchandise volume (GMS). The squad implements an ML-based model, tests, and retains it if it works. Checking for an uptick in GMS is only assessed on an annualized basis, allowing room to experiment and refine ideas all year.²³

To broad-base the use of data, CPR organizations need to accelerate the deployment of self-service analytics. However, self-service analytics presupposes the existence of strong data foundations, such as integrated tools, data and processes, as well as modern data platforms. Only 39% of CP and 28% of retail organizations are currently deploying self-service analytics with their business teams.

Self-service analytics arms front-end teams with quick access to actionable, data-powered insights without always requiring the help of data experts or data scientists. For example, when the marketing team at a large consumer e-commerce brand faced a significant drop in website page views, it could identify the reason on its own, without having to run the data past a data scientist. An AI-driven algorithm identified the devices and regions experiencing the drop. The marketing team was able to modify the specific page paths, bringing the revenue trajectory within expected range.²⁴



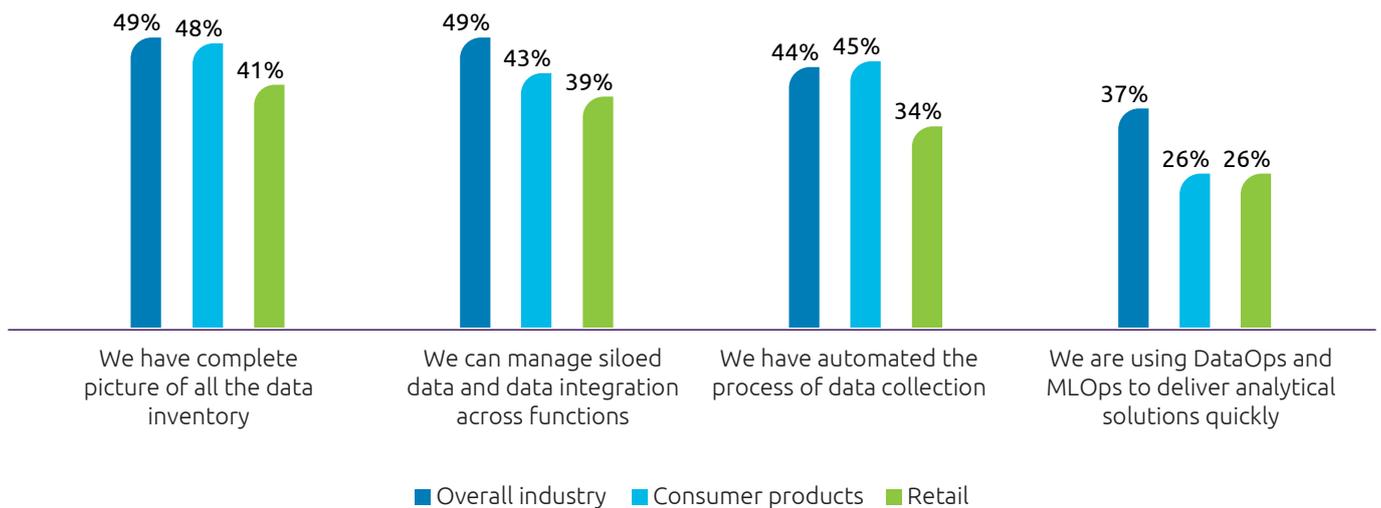
2. Modernize the data platform for faster implementation of insights

To respond to fast-changing market trends, a robust data platform is critical. In our survey, the majority (57%) of CPR organizations said that legacy and monolithic systems make it difficult to offer a seamless user experience and only 38%

can access data at the speed at which they need it. As Figure 11 shows, underlying factors include the fact that many organizations are yet to automate data collection.

Figure 10

Less than half of CP and retail organizations can work across data silos and have complete picture of data inventory



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products manufacturing and retail organizations each

Automotive, hardware and sports goods retailer, Canadian Tire Corp., focuses on modern data delivery capability. Its AI-powered platform helped it to capture the surge in demand for exercise and backyard equipment during the early stages of the pandemic. It also:

- Combined internal and external data – such as POS, foot traffic, local weather, and traffic congestion – to quickly spot emerging demand patterns.
- Delivered an intuitive interface for business users using natural-language processing (NLP). Its algorithms use ML to analyze past queries and automatically serve related

data. For instance, a merchandising manager might ask, *“How many televisions did we sell in Calgary in March?”* In addition to providing an answer, the platform provides information on sales drivers, such as promotions. It also recommends questions to consider, such as *“Did you know X freezers were sold in Calgary last month?”*

It also decommissioned its legacy infrastructure, consolidated data across the enterprise into a data lake, implemented cloud-based data systems, and invested in database processes for dynamic workforce scheduling for its corporate-owned stores.²⁵

We recommend focusing on three priorities to accelerate the modernization of data platforms:

Decouple from legacy systems

Legacy systems have traditionally fulfilled the role of data storage and security efficiently. But they are not designed to drive innovation using data. For example, using disjointed legacy reporting and billing systems, it is difficult to answer simple but critical questions, such as what is the lifetime value of a consumer, or what are their omnichannel purchase behaviors?

Many organizations are implementing API front-ends to work seamlessly with legacy ERP systems. For example, French retailer BUT integrated its various legacy systems to empower its store associates to access information such as product images, stock levels, or reviews from online users, helping them better engage with consumers.²⁶

To reduce costs and avoid system complexity, companies also need to identify redundant infrastructures and eliminate or standardize them.

- A “lift and shift” approach is not practical as it can cause unforeseen and unmanageable disruptions. They should **identify those areas that bring most value** while offering ease of implementation. For example, when embarking on Phillip Morris International’s IT transformation, the company’s CTO chose to consolidate and selectively decommission legacy IT assets while focusing equal effort on standardizing IT processes.²⁷
- CPR organizations need to **identify different data sources** – both existing and potential – and the various platforms where this data resides and feeds into. This can help them understand existing data silos and fragmented architectures.
 - When a global soft drink manufacturer encountered this issue, it created a single data lake for use across the organization. It helped business users to source data within 30 minutes and enabled quick insights development. Seeing the benefits, it is extending this capability to external partners, such as bottlers.²⁸
- CPR organizations should tap into the massive digital footprints of consumers to provide a personalized experience, including product reviews, social media engagement, emails, web interactions etc.

Migrate to cloud-based deployments to frequently test, learn, and iterate products/services/features

Legacy systems have traditionally fulfilled the role of data Cloud is a foundational technology not only to store,

XX%

Ucidemqu idebis delende liquam Nectibus doluptas

integrate, process, and operationalize data assets and algorithms, but to drive innovation across the enterprise. Yet, according to our survey, only 33% of CP and 40% of retail organizations have expanded the use of business intelligence and analytics in the cloud.

Zalando, a German e-commerce retailer, combined data from accounting, supply chain, and e-commerce platforms, using cloud to track business metrics in real time. The insights helped it to cut down size-related returns by predicting a garment’s fit based on the material and recommending right size to customers learned from their fit preferences.²⁹

Leverage AI and automation to quickly get to insights and act on them

Only 44% of CP and 34% of retail organizations automate the process of data collection. Manual ingestion and transformation of data is an inefficient, sub-scale method which results in poor data quality. With large CPR organizations having numerous and dynamic data sources, the need for automation and AI-driven data management is critical. Mars Inc. built a data cleansing tools capability that allows its business teams to use AI/ML to look at patterns in data and predict the accurate data as a recommendation. *“That way they [business teams] get a score – they get a recommendation – all they have to do is accept the recommendation if they like it; if they don’t, they have the option to revise it and that creates workflow back in the system. The objective is more power in the hands of our business end users,”* said Aniruddha Govande, digital foundations director at Mars, Inc.

With dynamically managed data, CPR organizations are unlocking new ways to understand their consumers. At consumer goods major Reckitt Benckiser, the company’s wellness brand – Durex – uses ML to automatically optimize messaging for each consumer on its website, depending on where the consumer is in the purchase journey. Amy Vetter, CX manager at Reckitt Benckiser in Europe, said, *“Those [customers] in more of a purchase journey on the blog pages can receive more information about how to buy the product; whereas those not quite ready to buy will see other articles that match the content they’re seeking.”* The technology enables better understanding of the consumer journey and feeds back into product development.³⁰



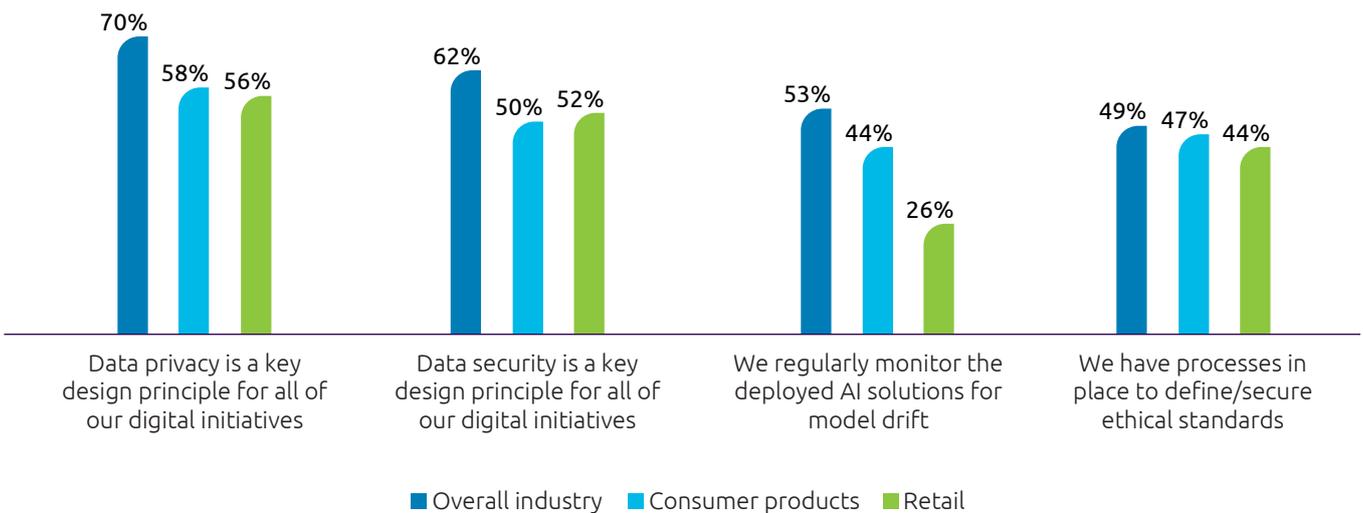
3. Strengthen trust in data with right data governance and data ethics

In our earlier report, AI and the ethical conundrum, we found that 71% of consumers expect a company’s AI system to be able to clearly explain to them how a result was reached. However, as Figure 12 shows, there is still a significant amount of work

for the organizations to do strengthening trust in data and algorithms. For example, only 58% of CP companies say data privacy is a key design principle.

Figure 11

CPR organizations have room to improve data privacy, security, and monitoring of algorithms, as well as defining the ethical standards of data



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products manufacturing and retail organizations each.

CPR organizations are using ever-greater amounts of data about their consumers to deliver a personalized experience. And this personalization is extending from demographic and geographic segments to behavioral and psychographic segments. Use of granular data in a variety of areas – differential pricing, customized ads, and deeper segmentation of consumers – can generate unforeseen

correlations and lead to biased algorithms. In 2016, Amazon’s algorithms correlated average income within a region with profit potential of its same-day delivery service. It meant that certain areas dominated by minorities were less likely to be eligible for same-day delivery.³¹

Apply data ethics principles to foster transparency and trust in data

Building trust requires data management that is ethical – fair, transparent, explainable, and auditable. However, even within the organizations there is misalignment between business executives and their tech colleagues on how much organization data can be trusted (see Figure 13). Addressing

the problem of a “black box” in algorithms is important to level the playing field among business and IT executives. Unilever, for example, uses a tool to keep track of decisions, follow the logic of algorithmic predictions in its supply chain. As Wendy Herrick, head of digital supply chain at Unilever, said, *“You can follow the logic [of algorithms] ... you can follow the audit trail of the decisions that have been taken, all the actions that have been taken. Again, it’s like treating this machine as part of your ... [organizational] chart. It’s really about being incredibly smart in where you do that and when you trust it for those more complex decisions.”*³²

IT executives and their business counterparts are not aligned on trusted data

As the chart below shows, business users are less likely to trust in the quality of data underpinning decision making than their technology colleagues.

Figure 13

Business and IT executives in CPR sector are misaligned when it comes to trust levels of data at their organizations



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=1,004 global organizations, N=100 consumer products manufacturing and retail organizations each

For CPR data masters, the picture is very different: all IT executives in this cohort say that business executives trust and completely rely on the data for decision making – and 83% agree.



ullaciandel ipsamet vides endaepratur re lature ma dolupta tendis res volumet labo. Ucipic tem voles culles voluptat odio. Bus. Qui natum sim exeaquo dolupit quiaero cus quam non consequere simagni magnihillab idi dolum es dolupta spelic tetust latem ellab in reperume volorep elendig nimum qui doloratur, iunturent, qui di seque natur? Od quiae evendia nobistiur, cum facea andi omnit autate sum eatatemporum elestotate sit magnistrum, sectias

.....
Xxx
Xxx.

Data trust can also be enhanced by applying appropriate human oversight to algorithms. According to Unilever’s Paul van Gendt, *“The power of the technology means we have the ability to add human value to the data for augmented intelligence. By having a consumer psychology or a research lens on the data, tools, and technology help us create meaningful insights.”*

To address the issue of bias in algorithms, it is important to create a process to review them with an appropriate governing body. Myntra, an online fashion retailer in India, has appointed a review committee comprising senior data scientists to detect any biases in its algorithms before their release.³³

Streamline data governance to build trust in data-led initiatives

Having the right governance to build trustworthy algorithms is also necessary. In 2019, Walmart created the role of “chief counsel of digital citizenship” to oversee data and technology initiatives in the company and to strengthen trust with consumers and store associates. It includes dealing with aspects such as privacy and data governance.³⁴

– a. Appoint dedicated C-level roles to ensure data is available and applied at the point of need

Given the growing complexity of enterprise data, and the need to leverage it as an enterprise asset, there is a strong case for dedicated leadership of enterprise data. However, only around one in five organizations (22% of CP and 18% of retail) have a chief data officer (CDO) as a standalone role. For the rest, it either does not exist or is merely an additional responsibility of another senior leader. In contrast, 90% of CPR data masters have a CDO as a standalone role.

To drive business value, CDO should not only work on setting protocols, compliance, and other aspects of managing data, but also be responsible for the use of data. The CDO should report into the Board or at CEO level and needs to engage with other CXOs early to align data priorities across the enterprise.

– b. Align data strategy with overall business vision and operationalize it with a hub-and-spoke operating model

Aligning data strategy with the overall corporate strategy is critical for helping leaders prioritize the key data analytics initiatives required to achieve wider goals. The data strategy is then operationalized through a hub-and-spoke operating model, consisting of three separate responsibilities:

- The central team headed by a CDO responsible for overall policy making, data strategy, and governance. The CDO’s role is to provide guidance and direction to the organization while allowing the business unit “spokes” to work on analytics initiatives independently.
- A data center of excellence (CoE) which acts as facilitator to support analytics and AI teams within business units.
- Business unit teams work closely with the CoEs to define and operationalize domain-specific use cases based on enterprise-wide priorities.

Coca-Cola Co. reorganized along these lines, with a new facilitator team (Platform Services) to serve its operating units in four areas: data management, consumer analytics, digital commerce, and social/digital hubs. It also appointed a new CDO to bring the model to life.



4. Plug into external data ecosystems to enable new business models and deeply understand consumers and operations

In a data ecosystem, multiple organizations come together for mutual value exchange, improving the value of their individual data sets multifold. Examples of external data include demographic and weather data, social media, open data sources from government agencies/non-profit organizations for traffic and footfall, etc.

There are several reasons why collaboration and ecosystems are increasingly important:

- While retail organizations have valuable purchase and other point-of-sale data, CP organizations also have increased access to first-hand consumer data from their D2C platforms. It is ideal for both retail and CP organizations to collaborate more closely on data and insight sharing, create better consumer experiences, and build more resilient supply chains.
- Emerging privacy regulations such as the GDPR in Europe and the CCPA in the US – as well as moves by Apple and Google to restrict third-party cookies on their browsers – mean that brands need to increasingly partner externally to compare audiences.
- While CPR organizations have been sharing data externally, the focus was risk mitigation, such as to assess the sustainability of their global supply chains. With digital technologies, data partnerships can go beyond risk mitigation and into building holistic consumer journeys, creating an efficient supply chain, improving the sustainability of products, and delivering additional services on top of products.

Walmart illustrates how data ecosystems can enhance value for all participants. It recently launched an advertising platform, opening up its audience data to marketers in a secure way. The platform uses Walmart shopper data to place targeted ads across the web, even outside Walmart's own sites. Leveraging its store network, the platform will help marketers determine if an online ad led to a consumer visiting a physical store and whether they bought something in response to the ad. Walmart envisions the platform becoming one of the top-ten advertising platforms in the US in the next few years.³⁵

CPR brands are likely to accelerate such second-party data partnerships as they invest in building data sets which are privacy-safe and reliable.

To derive real value from data partnerships, organizations should consider the following:

- **Dedicated external data roles.** Have dedicated roles working under the CDO to scout for data partnership opportunities. Taking a system-wide approach, they need to have visibility into all parts of the value chain, including suppliers, consumers, channels, etc.
- **Think in terms of value for all.** To sustain and scale data partnerships, organizations need to add value to the external parties. Unilever's India subsidiary, Hindustan Unilever (HUL), partnered with the State Bank of India (SBI) to give numerous small retailers access to finance for supply chain operations. It was enabled by linking the retailer's B2B app data with that of SBI's own consumer-facing app. Since retailers can only seek credit for HUL's products, they were incentivized to stock them.
- **Set up processes for external data integration.** Internal systems need to be primed so that they can cope with a massive influx of real-time data in a secure way. Organizations need to set processes for data ingestion, preparation, processing, and deriving value from it by delivering it in real-time to business users. Setting up governance systems to implement clear data sharing protocols, such as formats, duration, processing rights, etc. is also important.

Organizations need to bring the right context when collecting and integrating different data sources. As the global brand director at a large global CP organization told us, *"There's no single data that carries the truth. For informed decision making, you would check multiple sources via trends that you see or ad-hoc developments outside that you detect via digital data."*

- **Use data for positive outcomes for all:** External data partnerships can help organizations create purposeful brands and broaden positive impact for all stakeholders. As per our earlier research, sustainability approaches increased consumer loyalty at 77% of CPR organizations and a revenue uptick at 63% of them. Companies need to use data to enhance circularity of products, responsible sourcing and manufacturing, sustainable packaging, in-store operations, as well as fulfilment.

Conclusion

Data is redefining the competitive landscape in the CPR sector. Those high-performing organizations – the ‘data masters’ that are able to tap the sector’s vast data goldmine - enjoy 30% higher operating margins than the average. They design more nuanced strategies, deliver more personalized products and services, make faster and better decisions, and measure performance more effectively.

There is significant urgency for those who are not performing at a high level to raise their game, as competitive intensity is rising both from within and outside the sector. Armed with digital data, emergent companies (niche e-commerce and direct-to-consumer brands) are able to bypass extensive market research exercises to rapidly test and launch products or services; move from idea to product in days; and sense and respond to changing consumer behaviors rather than just reacting to them. As lines blur among sector participants,

data-powered decision-making will be the dominant source of competitive advantage.

Getting to high performance is not a straightforward journey. It all starts with deep commitment from the C-suite to formulate, revise, implement, and measure strategy based on clear data signals, and enforcing this diligence at all levels and functions within the organization. All data must be harnessed, governed, and served as high-quality, trusted and actionable insights to business executives. Expanding data skills, even among non-technical teams, will also be critical, as well as implementing cloud-based platforms.

In today’s fast-changing environment, being data powered is fundamental to success: now is the time to accelerate.

Appendix 1

Statements considered for the technology executives model

Category	Theme	Statement
Data Foundations (tech & tools)	Data & AI platform	We have invested in analytics tools and platforms
		We have dedicated resources for retraining and redeployment of existing models
	Data identification	We have data to construct a detailed end-to-end view (from planning to customer service/maintenance), such as a digital twin, of our products
		Our organization has a complete picture of all the data inventory
		We have a record of the data owner(s) for all internal data
	Data ingestion, processing, and harvesting	We are able to leverage structured, semi-structured as well as unstructured data for decision making
		We have defined and continue to update an enterprise-wide data catalog to assist data users
		We have automated the process of data collection
		We can store, retrieve and analyze the data at all levels of the organization's value chain
		We have developed data management processes that source, clean, prepare, integrate, and provide access to data at the speed that the business needs
		We have deployed processes to check quality of data at the points of capture
		We ensure data stewardship in each data domain for improving data quality
	Data governance implementation	Our data governance considers and plans for varying maturity levels of each business unit
	Infusion into business for data activation	We are expanding data, BI, and analytics in the cloud
		Higher-than-average number of our data sources are in cloud
		We offer data preparation tools for self-service data management
	"Data advantage" tools to leverage external data	We use the following external data for decision making – supplier data, data from distributors/retailers, data from platform providers, anonymous consumer data (such as cookies), personal identifiable information (PII) of consumers, consumer usage data, social media listening data, data from blogs/product reviews, publicly available competitor data, analyst/industry reports/reports from agencies such as D&B, data from hyperscalers such as Google, Amazon, Facebook, proprietary datasets from data aggregators such as Nielsen, Experian, open data, and other external data (such as weather, traffic)
		We create data by designing products and processes to capture new data

Category	Theme	Statement
Data behaviors	Data-powered decision making in business	We use predictive, prescriptive, autonomous/self-optimizing approaches for decision making in our organization
	Data governance processes	Business teams work with IT/data teams to identify insights from the data troves
		We build cross-functional data and insights teams that work with data engineers, data scientists, solution architects, and software developers
	Data activation culture	We have invested in a data culture by enabling employees with the skills and tools to generate and apply insights
		We actively promote the exploration, collaboration of new ideas, and experimentation at all levels
		Employees can work on new ideas/prototypes without worrying about failures
	Data guiding principles	Data is FAIR (Findable, Accessible, Interoperable, Reusable), secured, and sustainable
		Executives leaders champion data privacy, security, and ethics and are accountable for success
	Data advantage strategy	We monetize data assets/insights through our products and services
		We continually act on insights to optimize business outcomes
	Data activation vision and strategy	We have role-based data upskilling programs for most of our employees
		We upskill our employees on data skills such as model training, course correction, and maintenance in addition to their regular AI/ML skillset
		We train our business users on analytical and storytelling skills
		Our senior leadership is fully committed towards appropriate investments in resources and technology to make us data powered
		Our business strategy communicates how we will use data to drive strategic decisions, business outcomes, and to create a competitive differentiation
Our data/analytics officer ensures that the data/analytics strategy is aligned with the overall business strategy		

Statements considered for the business executives model

Category	Theme	Statement
Data Foundations (tech & tools)	Data & AI platform	We have invested in analytics tools and platforms
		Our organization has dedicated resources for retraining and redeployment of existing models
	Data identification	We have data to construct a detailed end-to-end view (from planning to customer service/maintenance), such as a digital twin, of our products
		We have a good understanding of the data and its provenance

Category	Theme	Statement
Data Foundations (tech & tools)	Data ingestion, processing, and harvesting	We are able to leverage structured, semi-structured as well as unstructured data for decision making
		Our data catalogue is clearly defined and regularly updated for us to use
		Our data collection process is automated
		We can easily store, retrieve, and analyze the data at all levels of the organization's value chain
		We get access to data at the speed at which we need
		We have access to self-service analytics
		We do not have sufficient data quality checks at the points of capture
	We have a good quality of data for each of the following data types – customer data, product data, sales data, supply chain data, finance data, operations data, employee data, external data, services data, and partner/platform provider data	
	Data governance implementation	Our data governance considers and plans for varying maturity levels of each business unit
	Infusion into business for data activation	We have expanded data, BI, and analytics in the cloud
"Data advantage" tools to leverage external data	We use the following external data for decision making – supplier data, data from distributors/retailers, data from platform providers, anonymous consumer data (such as cookies), personal identifiable information (PII) of consumers, consumer usage data, social media listening data, data from blogs/product reviews, publicly available competitor data, analyst/industry reports/ reports from agencies such as D&B, data from hyperscalers such as Google, Amazon, Facebook, proprietary datasets from data aggregators such as Nielsen, Experian, open data and other external data (such as weather, traffic)	
	Our products and processes are designed to capture new data	

Category	Theme	Statement
Data behaviors	Data-powered decision making in business	We use predictive, prescriptive, autonomous/self-optimizing approaches for decision making in each of the following functions – general management, sales and marketing, R&D/innovation, production/manufacturing operations, supply chain and procurement, customer service, finance and accounting, risk and compliance, human resources
	Data governance processes	Business teams work with IT/data teams to identify insights from the data troves
		We build cross-functional data and insights teams that work with data engineers, data scientists, solution architects, and software developers
	Data activation culture	We have invested in a data culture by enabling employees with the skills and tools to generate and apply insights
		We actively promote the exploration, collaboration of new ideas, and experimentation at all levels
		Employees can work on new ideas/prototypes without worrying about failures

Category	Theme	Statement
Data behaviors	Data guiding principles	Sustainability (data production, storage, and use are sustainable) of data is a key consideration in our data governance
		Access policies are clear and defined for all kinds of user roles.
		Executives leaders champion data privacy, security, and ethics and are accountable for success
	Data advantage strategy	We monetize data assets/insights through our products and services
		We continually act on insights to optimize business outcomes
	Data activation vision and strategy	Our employees realize the value of being data driven
		We have role-based data upskilling programs for most of our employees
		We are trained on analytical and storytelling skills
		Our senior leadership is fully committed towards appropriate investments in resources and technology to make us data powered
		Our business strategy communicates how we will use data to drive strategic decisions, business outcomes, and to create a competitive differentiation
		Our data/analytics officer ensures that the data/analytics strategy is aligned with the overall business strategy

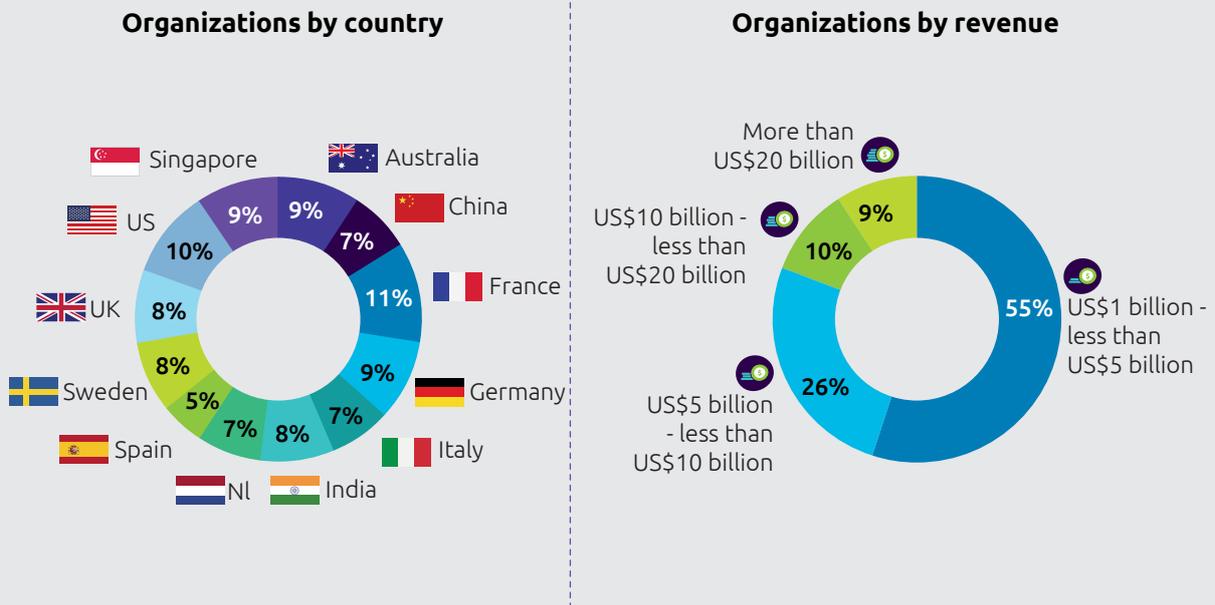
Research Methodology

In this research:

- We surveyed technical executives working in IT/data functions such as IT, information management, data management and analytics, business intelligence, etc. from 100 CPR organizations.
- We surveyed business executives working in business functions from 101 CPR organizations.

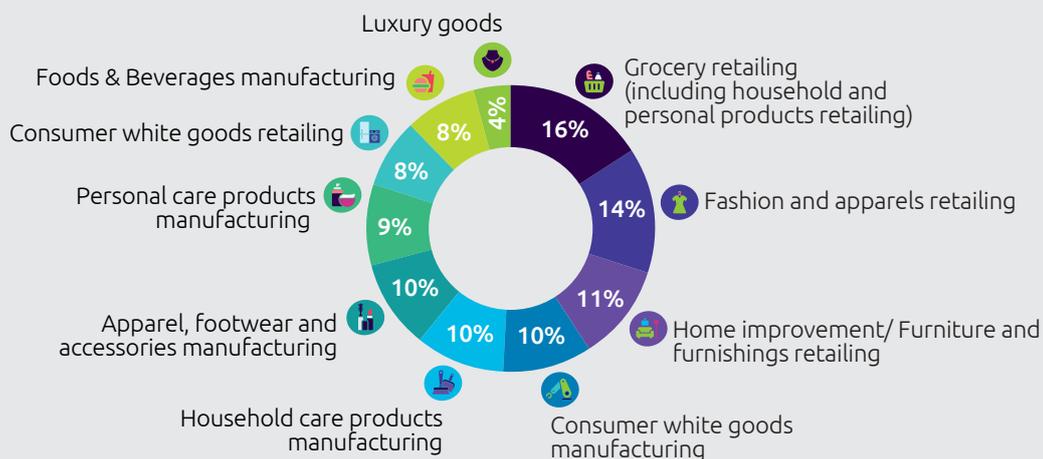
Both surveys were conducted in August of 2020 and covered organizations with at least USD 1 billion in revenues for the previous financial year. In addition, we conducted around 15 in-depth interviews with senior technical and business executives on the data initiatives in their organizations.

Distribution of organizations in the market surveys



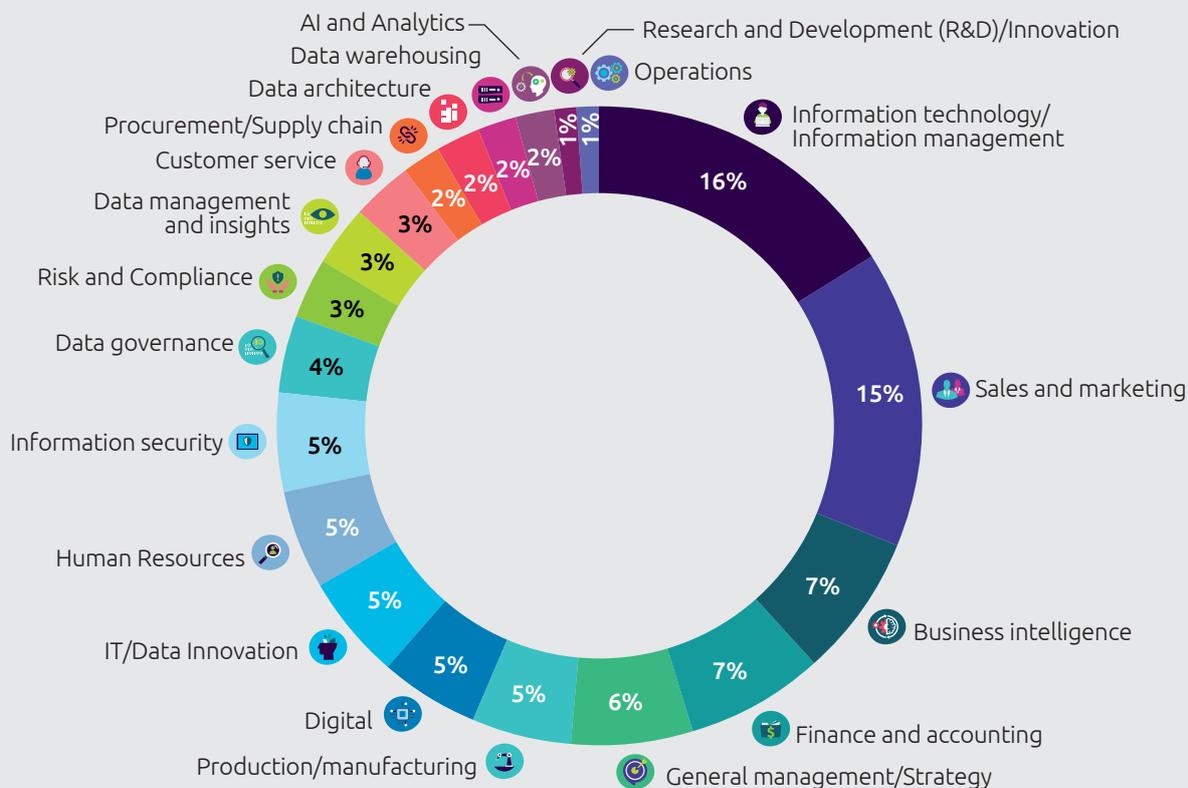
Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=201 organizations.

Organizations by sub-sector



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=201 organizations.

Executives by function



Source: Capgemini Research Institute, Data-powered enterprises survey, August 2020, N=201 organizations.

References

1. Call transcript, Walmart Inc Investment Community Meeting, May 13, 2020.
2. VentureBeat, "How Walmart uses AI to enable two-hour Express Delivery," May 11, 2020.
3. Supermarketnews, "study: Walmart surpasses Amazon in online grocery share," August 17, 2020; RBC Capital Markets, "Walmart announces removal of shipping minimum on Walmart+ subscriptionservice," December 2, 2020.
4. Gap Inc. analyst investor day transcript, October 20, 2020.
5. Godairyfree.org, "NotMilk is Not Milk, but AI Says it Tastes Just Like It," December 1, 2020.
6. WSJ Pro, "Plant-Based Milk, Built by Machine Learning, Hits Whole Foods Shelves," November 5, 2020.
7. Cision, "PepsiCo Launches New Direct-to-Consumer Offerings to Deliver Food & Beverage Products and Meet Increased Demand Amid Pandemic," May 11, 2020.
8. MarketingWeek, "PepsiCo admits it needs to improve digital capabilities as online sales soar," October 2, 2020.
9. Consumer Goods Technology, "Why Customer Data Platforms?" October 2020.
10. ET CIO.com, "How Unilever is leveraging AI, cloud and IoT to take data-powered decisions," September 26, 2019.
11. Call transcript, "Kellogg Company Presents at CAGNY 2021 Conference," February 17, 2021.
12. Company earnings call transcripts, press releases and news articles
13. Capgemini Research Institute, "How Sustainability is fundamentally changing consumer preferences," 2020.
14. Supply Chain Dive, "Ikea teams up with Optoro to reduce reverse logistics waste," December 2019.
15. Google Cloud press release, "Unilever and Google Cloud Team up to Reimagine the Future of Sustainable Sourcing," September 2020.
16. LG, "LG introduces next generation of laundry with new AI-powered washer," January 2020.
17. "Workwear Produced Through The Circular Economy," Goexplorer.org, June 28, 2018"
18. Call transcript, The Kroger Co., Q3 2021 Earnings Call, December 3, 2020.
19. Chain Store Age, "L'Oreal enhances social personalization with AI," October 28, 2021.
20. E3 Magazine Global, "Dairy Farm Group Accelerates Digital Transformation," January 25, 2021.
21. "Syniti Knowledge Platform Helps Enable Better Data Quality Management," November 2, 2020
22. CIO, "Predictive analytics unlocks factory capacity at Reynolds," April 29, 2020.
23. Etsy, "Etsy, Inc. Presents at The Truist Securities Technology, Internet & Services Conference," March 10, 2021
24. Consumer Goods Technology, "What Is Self-Service Data Science, and Why are So Many Brands Looking for It?," September 22, 2020.
25. Call transcript, "Q4 2019 Canadian Tire Corporation Ltd Earnings Call," February 13, 2020.
26. PR Newswire, "French retailer BUT equips its 310 stores with Openbravo," January 21, 2021.
27. CIO.com, "Phillip Morris CTO scraps bimodal IT for consumer-centric model," December 17, 2020.
28. Capgemini, "How legacy systems are holding businesses back," December 29, 2020.
29. Chain Store Age, "Global fashion retailer personalizes online shopping with AWS," November 25, 2020.
30. Intellimize, "Durex Digs Into Machine Learning to Bring Direct-to-Consumer Testing to New Heights," January 19, 2021.
31. The Verge, "Amazon working to address racial disparity in same-day delivery service," May 8, 2016.
32. "Digital Supply Chain and Innovation at Unilever," CXO Talk, February 21, 2021.
33. ET CIO.com, "How Myntra is eliminating biases in AI algorithms," February 3, 2021.
34. Walmart press release, <https://corporate.walmart.com/newsroom/2019/09/10/nuala-oconnor-to-join-walmart-in-new-digital-citizenship-role>, accessed February 11, 2021.
35. CNBC.com, "Walmart enlists The Trade Desk as it plots big growth for its ads business," January 28, 2021.

About the Authors



Xxx
Xxx
XXX
Xxx



Xxx
Xxx
XXX
Xxx



Xxx
Xxx
XXX
Xxx



Xxx
Xxx
XXX
Xxx



Xxx
Xxx
XXX
Xxx



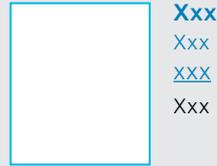
Xxx
Xxx
XXX
Xxx



Xxx
Xxx
XXX
Xxx



Xxx
Xxx
XXX
Xxx



Xxx

About the Capgemini Research Institute

The Capgemini Research Institute is Capgemini's in-house think tank on all things digital. The Institute publishes research on the impact of digital technologies on large traditional businesses. The team draws on the worldwide network of Capgemini experts and works closely with academic and technology partners. The Institute has dedicated research centers in India, Singapore, the United Kingdom, and the United States. It was recently ranked number one in the world for the quality of its research by independent analysts.

Visit us at www.capgemini.com/researchinstitute/

For more information, please contact:

Global

Xxx
Xxx
xxx

Xxx
Xxx
xxx

Xxx
Xxx
xxx

APAC

Xxx
Xxx
xxx

France

Xxx
Xxx
xxx

Germany

Xxx
Xxx
xxx

Xxx
Xxx
xxx

India

Xxx
Xxx
xxx

Italy

Xxx
Xxx
xxx

Extended Europe

Xxx
Xxx
xxx

United Kingdom

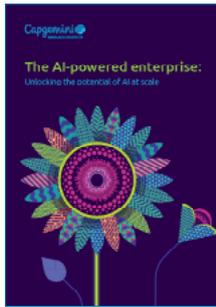
Xxx
Xxx
xxx

North America

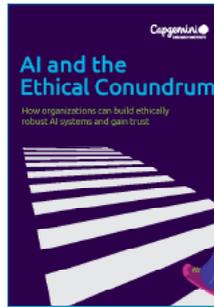
Xxx
Xxx
xxx

Xxx
Xxx
xxx

Discover more about our research:



[The AI-powered enterprise: Unlocking the potential of AI at scale](#)



[AI and the Ethical Conundrum: How organizations can build ethically robust AI systems and gain trust](#)



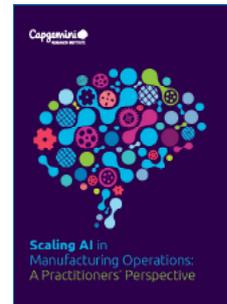
[The Art of customer centric Artificial Intelligence: Raising the bar on AI in customer experience](#)



[Understanding digital mastery today: Why companies are struggling with their digital transformations](#)



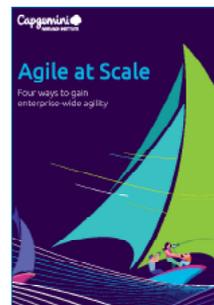
[Upskilling your people for the age of the machine](#)



[Scaling AI in Manufacturing Operations: A Practitioners' Perspective](#)



[Emotional Intelligence: The essential skillset for the age of AI](#)



[Agile at Scale: Four recommendations to gain enterprise-wide agility](#)



[The Digital Talent Gap—Are Companies Doing Enough?](#)

Subscribe to the latest research from the Capgemini Research Institute



Receive copies of our reports by scanning the QR code or visiting <https://www.capgemini.com/capgemini-research-institute-subscription/>



Capgemini Research Institute ✕

Fields marked with an * are required

First Name *

Last Name *

Email *

By submitting this form, I understand that my data will be processed by Capgemini as indicated above and described in the [Terms of use](#) *



About Capgemini

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of 270,000 team members in nearly 50 countries. With its strong 50 year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2020 global revenues of €16 billion.

Get the Future You Want | www.capgemini.com