

RESILIENT RETAIL

AMID UNCERTAINTY AI GIVES RETAILERS A PATH TO RESILIENCE

By
Chris Biggs, Gavin Parker, Tiffany Yeh,
Priya Malani and Jack Parolisi



Knowledge partner

PREFACE

Retailers have faced severe headwinds over the past few years. These may be easing, but the world is far from calm. Although the first signs of a heartening optimism are evident throughout the industry, retailers know that they must achieve greater resilience if they are to cope with looming uncertainty and gaps in their capabilities, as consumers and competitors evolve.

BCG has partnered with the World Retail Congress – our tenth year working together – to help equip retail leaders for the journey ahead. We surveyed more than 550 retail leaders across the globe to discover their greatest fears and concerns for 2023 and to find out what they are currently doing to tackle them. Issues such as consumer confidence, rising costs, and supply chain volatility are top of mind regardless of retail sector, size or geography. Interestingly, however, some long-standing challenges such as labour availability have become less acute.

This joint report dives deeper into our findings, with a special focus on how artificial intelligence (AI) and advanced analytics (AA) technologies can provide solutions. These technologies enable organisations to develop specific tools to deliver an immediate boost to growth and profitability – from pricing optimisation to supply chain resilience to hyper-personalisation – while holistically transforming the entire retail value chain.

We hope that retailers will find the insights in this report valuable as they seize the opportunity to use these extraordinary times to build structural advantage.



CHRIS BIGGS
MANAGING DIRECTOR AND SENIOR PARTNER,
GLOBAL HEAD OF RETAIL
BOSTON CONSULTING GROUP

LETTER FROM THE CHAIRMAN

As we talked to retailers over many months to understand the key issues that we should focus on at this year's World Retail Congress, it was clear that retail leadership teams were facing a series of unprecedented challenges. Not only were retailers across all sectors and geographies having to grapple with industry and technological change but overlaying it all have been a series of geopolitical, economic, and social factors that were almost completely unpredicted. Highest inflation levels for 40 years, supply chain challenges, a cost-of-living crisis, a tightened employment market and the threat of recession in many economies have all completely changed the operating conditions for retailers.

Put simply, retailers have had to contend with two dramatically opposing pressures – the need to batten down the hatches in the face of the economic conditions whilst at the same time having to invest in the drivers of change such as new technologies. To put some focus around this in our programme we describe these two “pillars” of today's retail as “resilient retail” and “transformational retail”. Resilient retail describes the need for retailers to develop new strategies to drive bottom-line growth when the top-line is under pressure and in finding ways of serving customers better with the best possible value at a time when sourcing and supply costs are rising by double digits.

It looks set to continue to be a critical part of the retail landscape. The Congress is therefore delighted to be working with BCG as one of our key knowledge partners. BCG undertook this important study into Resilient Retail and to identify what senior retailers see as their challenges but to also help identify possible solutions. What this report identifies is that technology, and AI in particular, are providing huge and exciting potential that will help drive innovation, greater efficiency, profitability, and ultimately better service for customers.

This report will form a critical part of the discussions at this year's World Retail Congress, and we believe will help retailers as they return to their businesses and use the findings contained here to give new focus to the drive to build that all important resilience.



IAN MCGARRIGLE
CHAIRMAN
WORLD RETAIL CONGRESS
IAN.MCGARRIGLE@WORLDRETAILCONGRESS.COM

A handwritten signature in black ink that reads "Ian McGarrigle". The signature is written in a cursive style with a horizontal line underneath.

INTRODUCTION

After several gruelling years, the global economy is finally stabilising. Inflation is slowing in most regions and supply chain costs are finally coming down after a sustained period of skyrocketing. Around the world, earlier predictions of a severe downturn seem to be mellowing, as experts grow optimistic that prospective recessions will be mild, if not completely avoided. Despite this cautious optimism, however, the world is resettling in ways that are much more challenging for retailers than was the case before the pandemic. Input costs are at record highs, operational uncertainty persists and geopolitical challenges are ongoing.

In collaboration with the [World Retail Congress](#), BCG surveyed more than 550 senior leaders in retail around the world and across 12 sectors to better understand the global retail environment (see [Methodology](#)). We asked retailers for their perspective on the macroeconomic outlook and the situation in their industry, as well as their concerns for the future and how their organisation plans to address those concerns. We discovered that retailers share the same top concerns, regardless of geography or company size: rising cost of goods, declining consumer spending and supply chain volatility. Most are addressing these concerns with traditional solutions, with some success, but the vast majority are missing out on an opportunity to embrace AI-powered solutions that promise to improve resilience and deliver long-term structural advantage.



RETAILERS' OUTLOOK ON 2023

Although retailers largely agree that economic uncertainty will continue in 2023, there are definite signs of optimism. Globally, 45% of retailers expect the economy to grow slowly in 2023, 20% of retailers think it will grow rapidly and only 11% believe it will decline, either slowly or significantly (see [Exhibit 1](#)).

Nevertheless, despite the relatively hopeful outlook, significant challenges remain. Costs for retailers, as measured by the producer price index (PPI) are much higher in 2023 than they were before the pandemic. PPI increases have also outpaced cost increases for consumers, as measured by the consumer price index (CPI) across regions, squeezing margins for retailers and creating continued operational challenges (see [Exhibit 2](#)). Most acutely, freight rates, which are a key input cost for retailers, remain quite high. As of March 30, 2023, despite declining significantly over the previous few months, shipping container freight rates in 2023 were still 21% above the average 2019 pre-pandemic rate. And geopolitical challenges and supply chain volatility are the main drivers of these high rates.

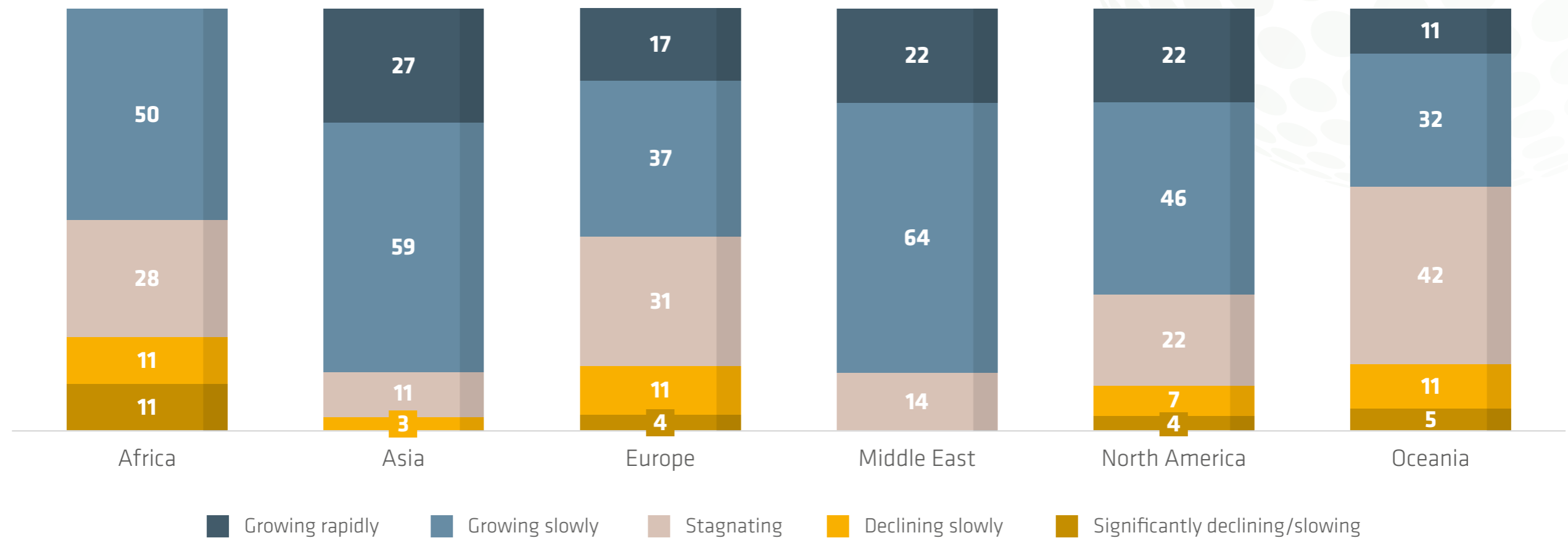
Even as they face record high costs, retailers must contend with slowing consumer demand in most parts of the world. Economists expect a dramatic slowdown in global growth of real (inflation-adjusted) consumer spending, from 7.9% in 2021 to 1.7% in 2023 (see [Exhibit 3](#)). Similarly, 72% of retail respondents anticipate increased consumer sensitivity to prices in 2023. This limits the options retailers have to recover and combat high input costs, and it creates new difficulties that retailers must combat, such as shifting consumer behaviour towards specific products and customer segments (highly prioritising food 'affordability', for example, which represents a shift from the focus on food 'wellness' during the pandemic years).



EXHIBIT 1 -RETAILERS HAVE GENERALLY POSITIVE EXPECTATIONS FOR THE 2023 ECONOMY

When you think about the economy in 2023, do you think it will be...

Retail leaders surveyed who agree (%)

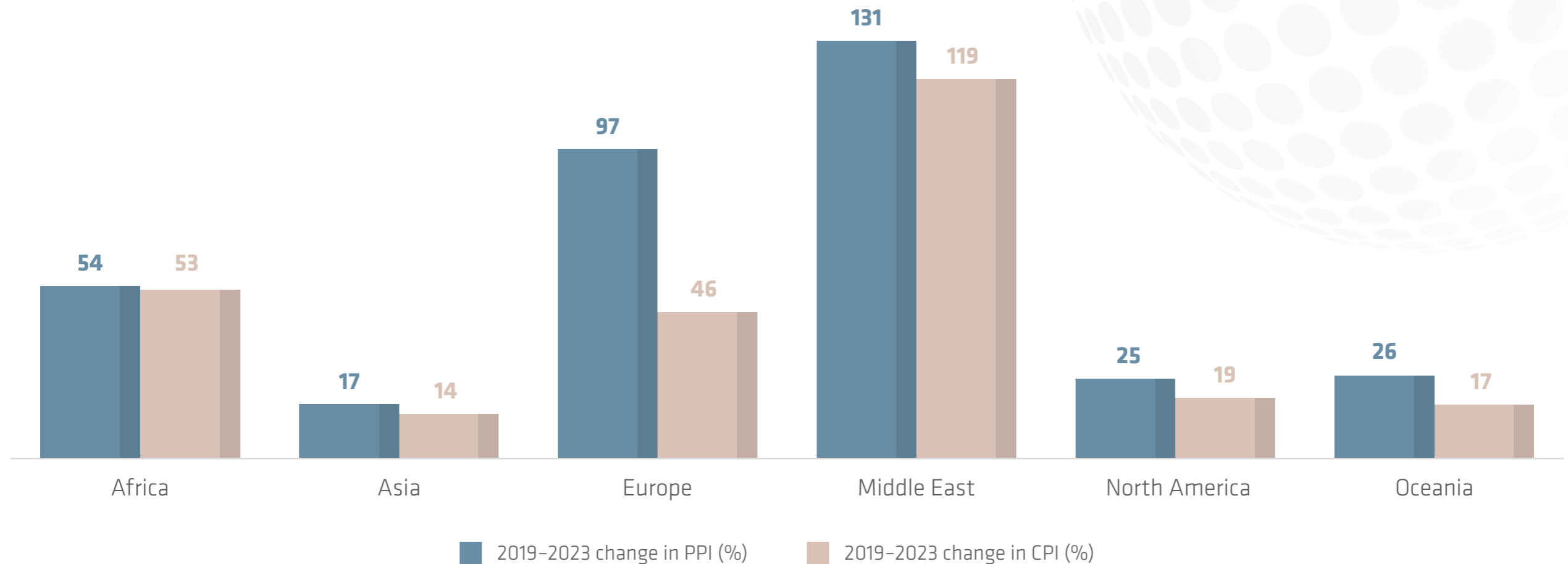


Sources: BCG Global Survey on Retail Resilience, February 2023, n = 561; BCG analysis.

Note: Because of rounding, not all bar segment totals add up to 100%.

EXHIBIT 2 - MACROECONOMIC TRENDS: PPI GROWTH AND CPI GROWTH

From Q1 2019 to Q1 2023, PPI growth outpaced CPI growth, indicating squeezed retailer margins



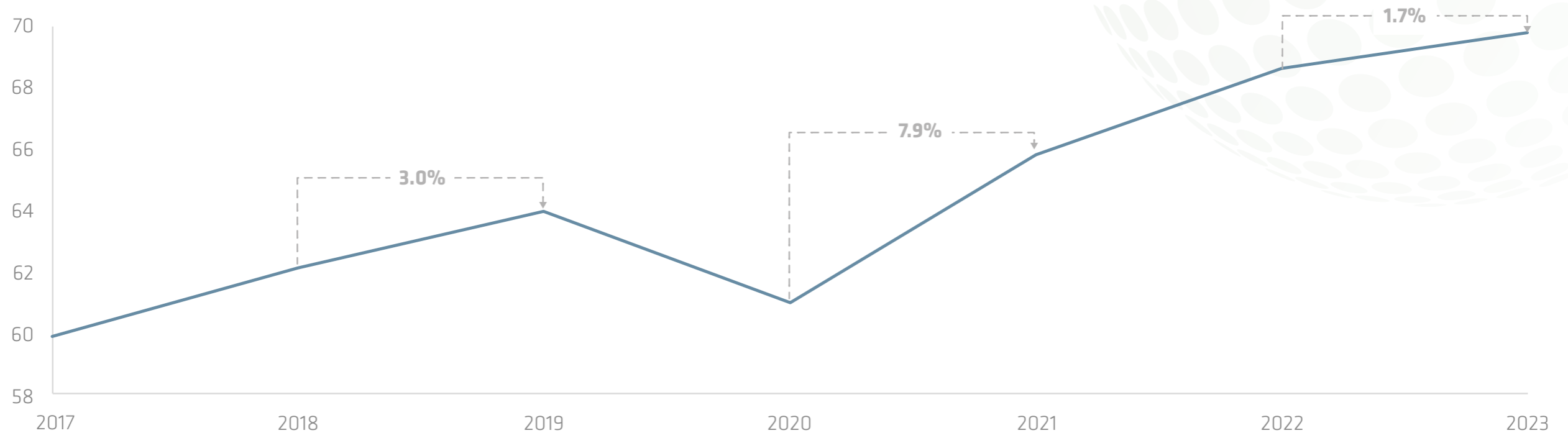
Source: Oxford Economics.

Note: CPI = consumer price index; PPI = producer price index.

EXHIBIT 3 - MACROECONOMIC TRENDS: GLOBAL CONSUMER SPENDING, 2017-2023

As pandemic tailwinds fade, global consumer spending growth is projected to slow dramatically to below prepandemic growth rates

Global consumer spending at PPP constant 2015 prices (\$trillions)



Source: Oxford Economics.

Note: Select countries, including Russia, have been excluded from the data set represented in this exhibit. PPP = purchasing power parity.

RETAILERS' TOP THREE CONCERNS

Against this backdrop, we asked the retail leaders in our survey to rank their concerns for their businesses in 2023. Almost universally, they cited rising costs of goods, declining consumer spending and supply chain volatility as their top three concerns (see [Exhibit 4](#)). Although other concerns occasionally appeared in the upper echelons of the list for specific sectors and regions (such as inventory levels for auto retailers and a changing competitive landscape for Asian retailers), these three concerns are clearly top of mind. Interestingly, concern over labour shortages sank on the list to a tie for sixth globally – a marked change after several years as a top issue. We see evidence of this trend in action in the form of much higher industry layoffs in the first quarter of 2023, particularly among corporate retail employees, in sharp contrast to the hiring frenzy of last year. We believe that this change is likely due to a combination of needing to correct for rapid hiring during the pandemic and wanting to cut costs in anticipation of reduced consumer spending.

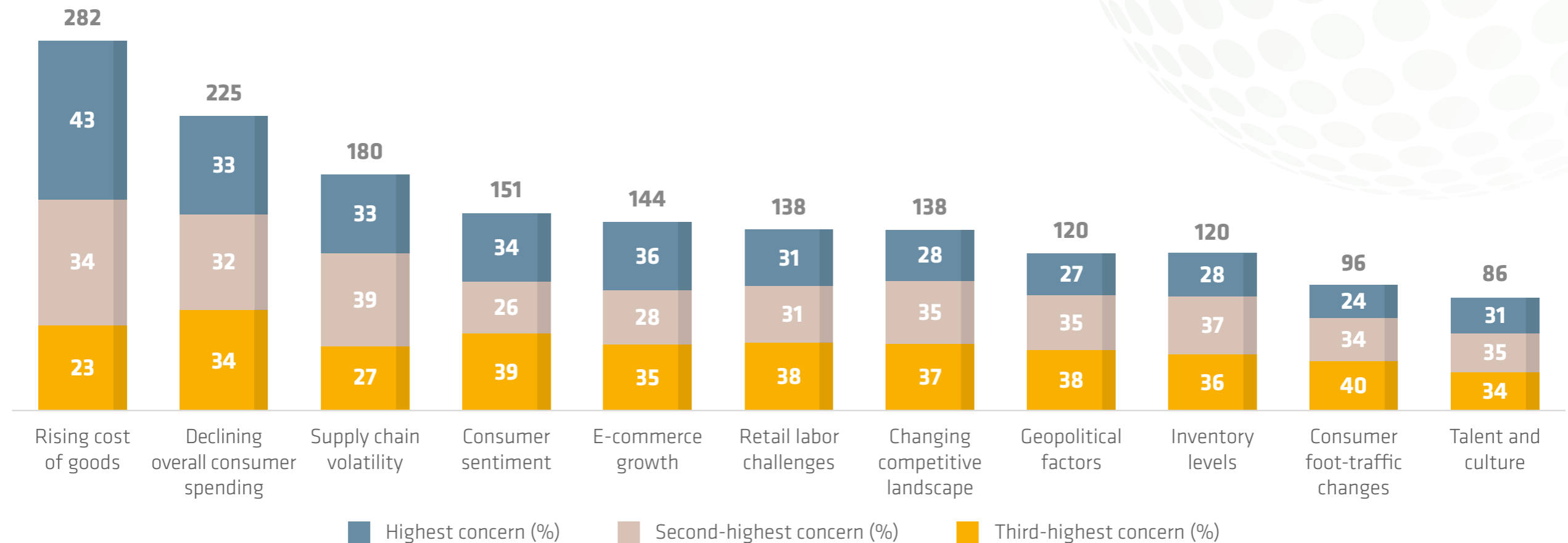
We also asked retailers how they are addressing these concerns (see [Exhibit 5](#)). Citing a range of strategies, most are focusing on one-time, short-term fixes. Relatively few are tapping into strategies such as AI predictive tools or agile network investments, which could more efficiently address their concerns and build a sustainable, long-term structural advantage.



EXHIBIT 4 - ALMOST UNIVERSALLY, RETAILERS CITED RISING COST OF GOODS AS A TOP 3 CONCERN FOR 2023

What are you most concerned about for your organization in 2023?

Retail leaders surveyed who selected as Top 3 concern

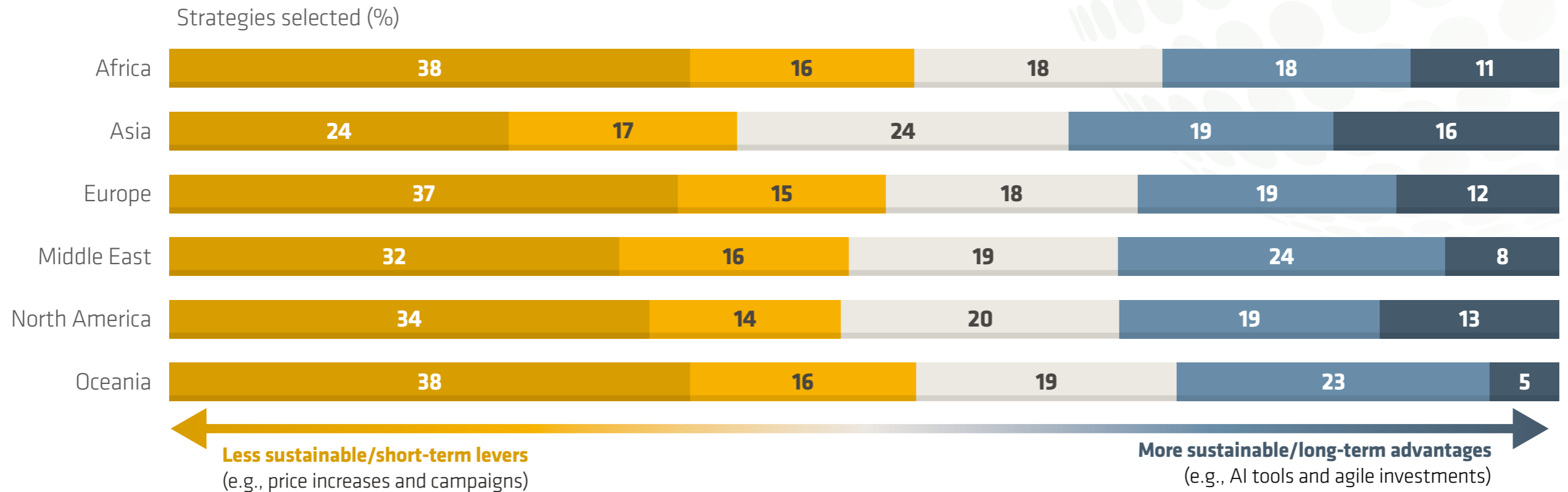


Sources: BCG Global Survey on Retail Resilience, February 2023, n = 561; BCG analysis.

Note: Because of rounding, not all bar segment totals add up to 100%.

EXHIBIT 5 - ACROSS MOST REGIONS, RETAILERS RELY ON SHORT-TERM, UNSUSTAINABLE STRATEGIES TO ADDRESS TOP 3 CONCERNS

How is your organization managing these Top 3 concerns?



Sources: BCG Global Survey on Retail Resilience, February 2023, n = 561; BCG analysis.

Note: We assigned each strategy a rank from 1 (for most temporary or short term) to 5 (for most advanced or long term); the five rank numbers correspond to the bar coloring, from yellow (1) to blue (5). Because of rounding, not all bar segment totals add up to 100%.

RISING COST OF GOODS: THE **RELENTLESS ASCENT**

In addressing the rising costs of goods, retailers tend to stick with the basics. Approximately 55% of respondents said that their organisations are raising consumer prices and 52% are renegotiating with suppliers. These two strategies dominated in every region except Asia, where the leading solution is cost tracking and management processes.

But raising prices and renegotiating with suppliers are short-term, temporary levers that in some instances may damage the brand. For example, applying one-size-fits-all price increases across customer segments that have different price sensitivities (a variable that retailers expect to be a greater concern in 2023) is inefficient and could cause more harm than good if the increases alienate an important customer segment. By instead using AI for pricing, a retailer can deaverage its approach to be as specific as the individual customer, store or channel, and can transform its pricing capabilities into a sustainable, structural advantage. AI can create a next-generation pricing strategy in several ways:

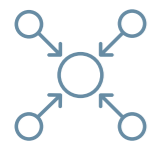
- Enable geographic- and channel-based pricing, dynamic price changes and personalised offers.
- Use machine learning to better understand price elasticity and make pricing forecasts.
- Simulate and optimise across different price positions, promotional plans, markdowns, and personalisation strategies.
- Monitor relevant competition (for instance, nearby businesses) and alternative data sources (for instance, social media) in real time to quickly respond to competitors' moves and to demand signals.

For example, BCG worked with a North American convenience retailer to transform its pricing capabilities into a competitive advantage by using AI (see [Real-Life Example 1](#)). AI enabled this retailer to take a holistic approach to pricing by considering a wide range of real-time variables, from hyper-local competitor data to “magic price points” that influence consumer behaviour. The retailer could then use AI to optimise its prices to the specific product and store level, all while understanding the product interdependencies (such as cannibalisation) at play. It would be impossible to match the scale and speed of this approach using traditional methods.

To capture the full value of AI, however, the company needed to transform its structural operations. For example, the organisation broke down silos that were isolating teams, processes and data, and it integrated and implemented customer value initiatives across the organisation – from pricing to loyalty programmes – to achieve immediate and long-term positive impact. Changing the business processes across the company demanded about 70% of the overall AI implementation effort, but this strategy ensured that the AI became a true competitive advantage for the entire organisation, not just a pilot programme stuck among the data scientists. As a result of its wide-scale transformation, the retailer increased gross profit in the midst of rising cost of goods, and it did so while simultaneously improving customers' perception of the company's affordability.

REAL-LIFE EXAMPLE 1 - NORTH AMERICAN GROCERY RETAILER

Context: AI transformed the retailer's pricing strategy into a sustainable competitive advantage



Holistic approach: Incorporated all critical strategic considerations, including localised consumer sensitivity, competitor data, and "magic price points"



Predictive and dynamic: Built-in advanced demand forecasting, allowing for proactive adjustments ahead of competition



Specific: Optimised prices by SKU, store, and channel, while considering interdependencies

Impact of AI: Value was quickly realised and the initiative was self-funded from year 1

+2-5%

Sales lift was achieved in the first year and sustained in a volatile environment

+10%

Customer value perception, defined as percentage of shoppers who see the retailer as affordable

+4-5%

Gross profit lift was achieved without raising average prices, but by reinvesting where most needed

Business-led approach: The new pricing strategy was implemented in tools and technology, but also, importantly, in the business process and capabilities

10% of the total effort went toward building an AI-driven pricing tool

- The newly built AI tool could make millions of pricing decisions—strategically, holistically, and dynamically—enabling the retailer to respond in real time to market and customer changes

20% of the total effort went toward developing an integrated technology ecosystem

- Established supporting data and platform technology, and integrated them with the broader tech ecosystem
- Incorporated the pricing tool into an integrated "customer value engine", optimising across all value levers (pricing, promotions, markdowns, and personalisation).

70% of the total effort went toward transforming business processes and capabilities

- Defined a customer-centric value strategy, incorporating customer perceptions to make future investments where they matter most
- Redesigned pricing operating model to account for new tools, AI outputs, and ways of working
- Broke down silos between teams and initiatives (e.g., pricing, promotions, and customer loyalty) to ensure holistic pricing

DECLINING CONSUMER SPENDING: THE TIGHTENING WALLET

As noted earlier, economists in most regions expect growth in consumer spending to slow in 2023, though to different degrees. In North America, growth is expected to fall from 3.2% in 2022 to a nearly flat figure of 0.5% in 2023. In Europe, the prospects are even more stark, with economists anticipating that spending in 2023 will contract by 0.2%. Given its more recent post-Covid-19 reopening, Asia is likely to see demand hold up better, with consumer spending growth declining only from 4.6% in 2022 to 3.9% in 2023.

Regardless of these regional differences, retailers everywhere are making moves to cope with a slower-demand environment. Most are testing multiple approaches to the problem, with 73% saying that their organisations are using three or more tactics. The most common option is loyalty programme investments (45%), followed by product offering optimisation (44%), and then by price promotions (40%) and digital customer experience investments (40%). But we also noticed clear regional and sector differences. For example, European retailers more frequently cited marketing campaigns and price promotions, while Asian retailers are more focused on investing in predictive tools and digital customer experiences. For their part, department store retailers said that they most commonly rely on in-store customer experience investments.

These strategies can be effective, but most retailers outside Asia are neglecting AI and missing out on the potential additional benefits it offers. AI is a powerful way to meet growing customer expectations of a personalised experience, which can help overcome declining consumer spending trends and boost sales. [In a previous study](#), BCG found that consumers with a highly personalised experience were about twice as likely to add items to their baskets as shoppers without a personalised experience. Moreover, AI can help retailers build intelligent and long-standing competitive advantages by capturing customer attention and, ultimately, improving brand perception and customer loyalty. Customers who had highly personalised retail experiences gave 20% higher net promoter scores than did customers who had low levels of personalisation.

We saw this in action at a North American grocery retailer that wanted to apply AI to develop a personalised, multichannel experience ([see Real-Life Example 2](#)). The effort transformed a traditional mass-marketing approach into something much more tailored to the individual customer. By leveraging AI, the company maximised each customer's spending and boosted loyalty, thus increasing customers' lifetime value at a scale that it could not have achieved through human endeavour alone. In a short time, the effort lifted retail revenue by 2% to 3%.

REAL-LIFE EXAMPLE 2 - NORTH AMERICAN CONVENIENCE RETAILER

Context: AI was applied to develop a personalised, multichannel customer experience

Pilot use cases:



Direct-to-consumer offers across channels (e.g., email, loyalty app)



Personalisation of e-flyers

Business-led approach: AI tools drove the marketing strategy transformation

Analytics engine deploying grocery campaigns and personalised weekly e-flyers with multiple custom components, from customer names in email subject lines to dynamic incentives

Promotion optimisation across multiple inputs, including:

- 50,000+ SKUs across 100+ categories
- 100,000+ digital content variations (e.g., product images and descriptions)
- More than ten item-and-incentive combinations (e.g., loyalty points, cash off, BOGO)
- Grocery business rules (e.g., product campaign eligibility and budget restrictions)
- Regional variations

A **redefined operating model** incorporating this ability to create a customised customer experience

Source: BCG experience.

The AI-powered personalisation engine holistically answers questions to drive better individualised promotion results



Offer propensity: What items will a specific customer most likely purchase based on various inputs, including customer history?



Category-level recommendations: In which product categories might the customer increase basket size and overall spending?



Churn risk: Who might be at risk of declining loyalty or significant spending reduction, and how can we prevent it?



Shopping missions: Based on similar customer baskets, what might this customer buy next?



Price sensitivity: What additional segmentation of customers can be done on the basis of price sensitivity?



Next-best action: Based on the customer's recent engagements, what is the next recommended promotion action?



2-3% revenue lift

SUPPLY CHAIN VOLATILITY: THE TUMULTUOUS JOURNEY

Not surprisingly, supply chain complexity and ongoing volatility remain a top concern for retailers. As mentioned previously, supply chain costs remain above pre-pandemic levels. At the same time, global dynamics continue to change radically: **rising trade tensions and economic nationalism** accelerated during the pandemic and are projected to persist, and events such as the war in Ukraine and the Suez Canal blockage in 2021 demonstrate the interconnectedness and fragility of supply chains.

Retailers are pursuing various solutions to deal with this volatility. Almost half of survey participants who cited supply chain complexity as a top concern are trying to improve their inventory management tools. Others are focusing on bettering vendor management, improving transportation and diversifying the supplier base.

Retailers have a relatively untapped opportunity, however, to embed AI in these solutions and in their overall supply chain strategy. By incorporating AI's predictive power, retailers can better understand and address the root causes of volatility across the entire supply chain. These insights can help them become more flexible and anticipate needs more accurately over the long term when undertaking inventory management, vendor management, supplier diversification and the like. In fact, some retailers are already seizing this opportunity.

Typical use cases include enabling the following capabilities:

- Forecast product demand at the store level and optimise allocation and replenishment, incorporating more real-time factors than traditional, non-AI methods do, including current and predicted stock levels, local competitors, social media trends, customer website clicks and local weather forecasts.
- Embed geopolitical and cost scenario planning into capital allocation and strategic planning. Doing so supports contingency planning, such as finding product alternatives and developing new supplier relationships.
- Build control tower capabilities to rapidly detect emerging disruptions or external shocks, and then adjust quickly and proactively.

For example, BCG worked with an Asian convenience retailer that wanted to use AI to power a proactive digital supply chain strategy (see [Real-Life Example 3](#)). The retailer is now able to consider volatility at all points along the supply chain, from manufacturing to customer behaviour. This allows the company not only to optimise for the entire supply chain, but also to make tactical and strategic moves ahead of the competition. In addition to increasing its sales, the company has lowered its transportation costs and reduced its product waste by 5%, furthering the company's ESG goals. Moreover, AI's continuous learning capabilities promise long-term dividends.

REAL-LIFE EXAMPLE 3 - ASIAN CONVENIENCE RETAILER

Context: AI drove a proactive digital supply chain management strategy



Complete supply chain optimisation: Connected inputs from production to sales to improve forecasting and proactively mitigate volatility drivers such as disruptions and changing customer behaviours



Continuous operational improvement: Combined store-level operational and customer data to develop and refine daily ordering recommendations and continuously improve store performance



Reduction of waste and opportunity loss: Integrated demand forecasting and dynamic pricing at a hyper-local level to better meet customer demand with minimal waste

Impact of AI: Benefits are realised across transformed operations

5%

Reduced product waste through new store operations processes, from orders to promotions

+15%

Increased product sales, especially prominent for low-performing stores

5%

Lower transportation and delivery costs through route and frequency optimisation

Business-led approach: Business decisions are dynamically improved through integration of humans and data along the supply chain

AI algorithms holistically analyse both historical and real-time data to continuously improve algorithm accuracy

- Built new AI tool to analyse demand drivers, levers, and tradeoffs such as store-level decisions, sales history, inventory, promotion, location, and competitor data in demand forecasting and optimisation algorithm

Centralised technology ecosystem for supply chain management allowed for holistic optimisation

- Integrated end-to-end supply chain drivers for holistic simulations and optimisation at each step along the supply chain, from manufacturing forecasts to final-mile customer delivery

Transformed human-centric systems and operations incorporated AI to proactively address volatility

- AI output translated into actionable insights reliant on human analysis and implementation to fully realise value

HOW TO GET STARTED: THINK QUICK WINS

Not only does AI have the vast potential to address retailers' immediate concerns about costs, consumer spending, and the supply chain, it also unlocks strategic and financial value along the entire value chain. Although these benefits are enticing, the prospect of introducing AI into a business can be daunting. We recommend that retailers making plans for their AI journeys take a focused, business-led approach, starting with addressing today's concerns and delivering quick wins along the way:

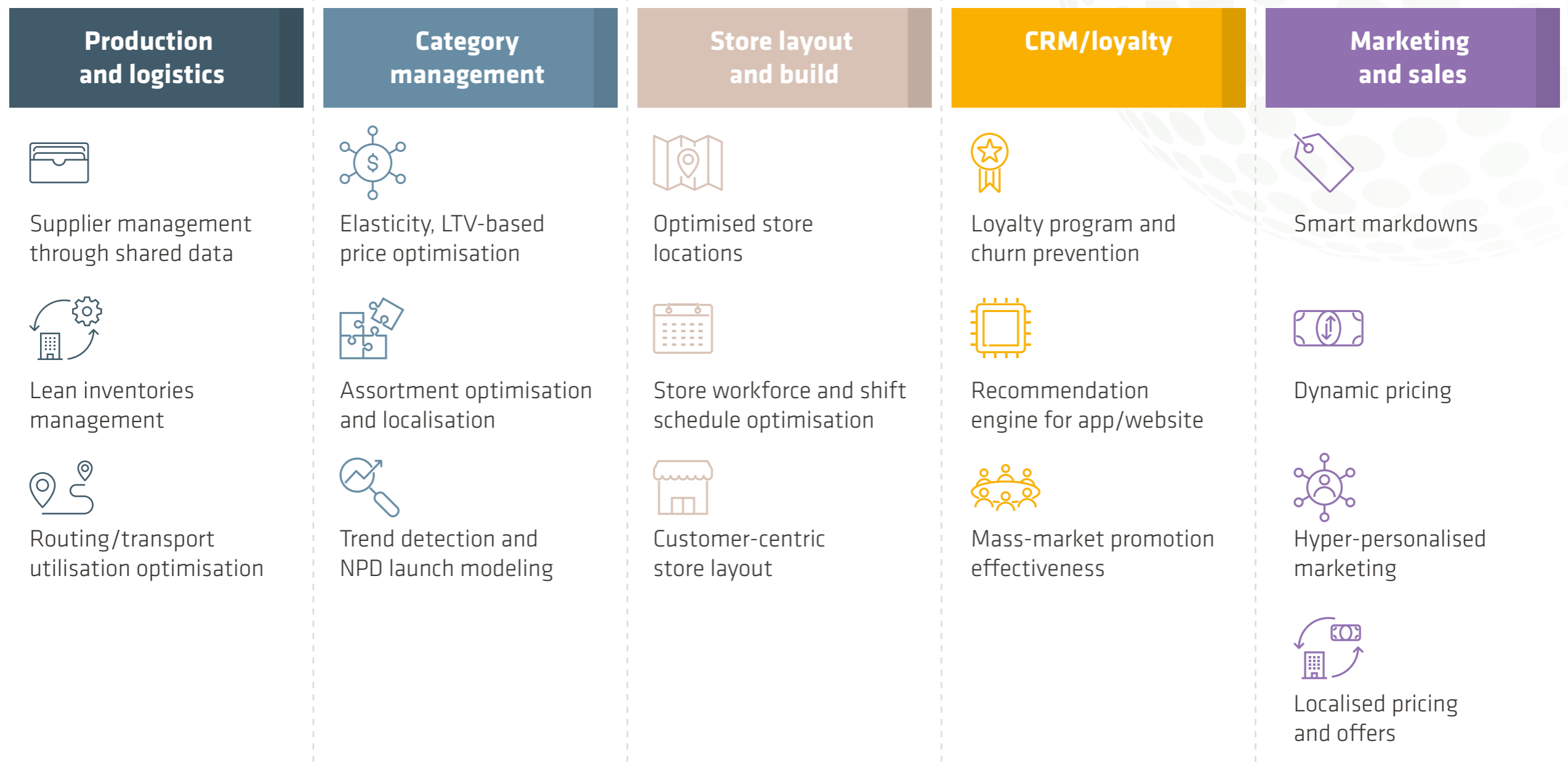
1. Identify challenges that the organisation faces and ways in which AI can help solve them (perhaps by elevating existing strategies) to create sustainable advantages. These will be the retailer's AI use cases.
2. Determine which use cases can unlock the most business value. Focusing on business value helps ensure that the entire organisation – and not just the data scientists – will be engaged in the AI project.
3. Prioritise the high-value use cases on the basis of business opportunity, feasibility and ambition. It's best to think big but start small to ensure early quick wins that build momentum for change.
4. Build, test and iterate the technology, and then scale fast to deliver quick impact, build capability and transform the organisation along the way.

The opportunities for retailers in implementing AI along the value chain are numerous, but this business-led approach helps a retailer address its organisation's unique needs and circumstances, creating structural advantages along the journey of transformation (see [Exhibit 6](#)).



EXHIBIT 6 - AI CAN UNLOCK NEW OPPORTUNITIES TO ADDRESS RETAILERS' NEEDS AND RESHAPE THE FULL RETAIL VALUE CHAIN

Examples of AI use cases



Source: BCG analysis and experience.

Note: CRM = customer relationship management; LTV = lifetime value; NPD = new product development.

CONCLUSION

After considerable upheaval during the pandemic, the environment for retailers is settling down, but the landscape remains more challenging, complex and competitive than it was before. For both the near future and the distant future, uncertainty will prevail around the world, despite sector and regional differences. In response, retailers need to bolster their resilience with tactics that address today's concerns about costs, consumer spending and supply chain volatility, while also creating sustainable structural advantages. We believe that AI is a critical enabler. Fortunately, retailers are rich in the data needed to power these AI engines, so it is a matter of acting today to harness this advantage to drive the business into the future.



**RESILIENT
RETAIL**

Acknowledgments

We would like to express our gratitude to all of the retail leaders who took part in this research anonymously. We would also like to thank our colleagues Alicia Braxton and Alexia Yeh Wilson for their contributions.

About the Authors



Chris Biggs is a managing director and senior partner and the global head of the retail sector, based in the London office of the Boston Consulting Group. You may contact him by email at biggs.chris@bcg.com.



Gavin Parker is a managing director and senior partner and the global retail AI lead, based in the firm's Melbourne office. You may contact him by email at parker.gavin@bcg.com.



Tiffany Yeh is a managing director and partner in BCG's Dallas office and leads the global retail resilience team. You may contact her by email at yeh.tiffany@bcg.com.



Priya Malani is a project leader in the firm's Dallas office. You may contact her by email at malani.priya@bcg.com.



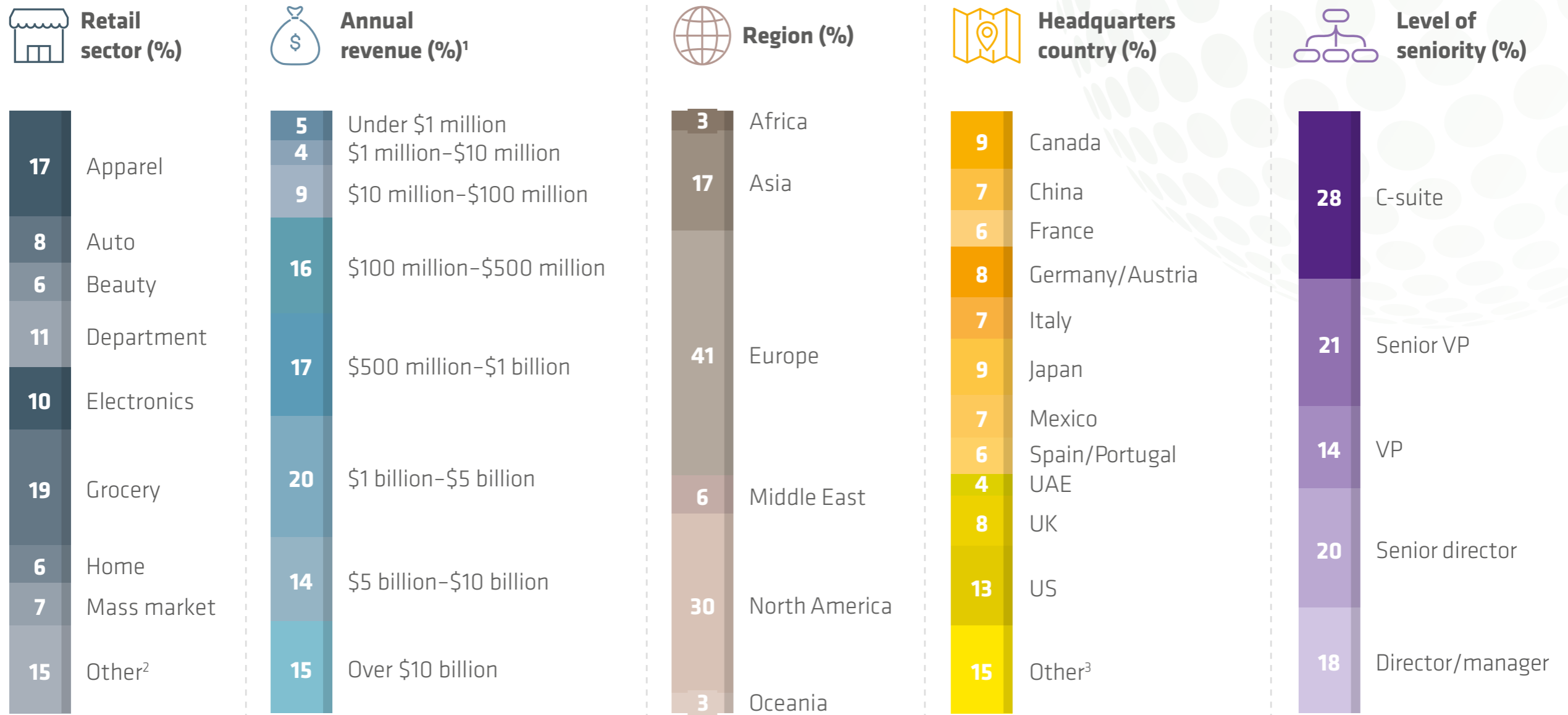
Jack Parolisi is an associate in BCG's Dallas office. You may contact him by email at parolisi.jack@bcg.com.

Methodology

For its 2023 Global Survey on Retail Resilience, BCG surveyed 561 employees at global retailers, across 12 retailer sectors, with 49% of whom worked at companies with over \$1bn in annual revenue ([see the exhibit](#)). The survey focused on five key areas in order to assess retail resilience:

- Macroeconomic outlook for 2023
- 2022–23 year-on-year comparisons for the retail sector
- Company-specific top concerns and current solutions for 2023
- Company approach to AI maturity
- Company investments in AI efforts

METHODOLOGY EXHIBIT - SURVEY RESPONDENTS BY RETAIL SECTOR, ANNUAL REVENUE, REGION, HEADQUARTERS COUNTRY, AND LEVEL OF SENIORITY



Source: BCG Global Survey on Retail Resilience, February 2023, n = 561.

Note: Because of rounding, not all bar segment totals add up to 100%.

¹Annual revenue¹ reflects annual global sales in US dollars.

²Other² includes club, convenience, dollar, drug, and specialty retailers.

³Other³ includes Australia, Egypt, Israel, Netherlands, Qatar, Saudi Arabia, South Africa, South Korea, Sweden, Switzerland, Syria, and Turkey.