

The future of grocery retail

A conversation about change and choice, as retailers grapple with six forces transforming their markets, models, and mechanics.

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The grocery industry is highly competitive and increasingly complex. Simple corner grocery stores, built to meet the needs of a local community, have evolved into international mega-chains of 3,000 plus stores, carrying 50 to 100,000 products from every corner of the earth,¹ serving millions of households across multiple channels—physical and digital—all on razor-thin margins.

The shape of the grocery industry evolved this way for a reason. It found economies of scale from a largely homogeneous consumer base, a big and growing middle class, and migration to expanding geographic locations. Consumer desire for quality, value, and choice was well-served by larger formats from trusted brands, where one-size-fits-all worked because the store had it all. Retailers that could distribute and stock more ruled what was a largely supply-driven industry.²

But the diversity of the consumer has increased dramatically across many dimensions, and growth has sometimes been harder to come by as the needs and preferences of consumers get more specific and differentiated. Technology and new competitors gave consumers more choice. The industry has become increasingly creative, sometimes ingenious, in attempting to meet those needs while striving to achieve profitable

growth. However, the future of grocery retail will likely demand greater change yet.

Exponentially more powerful technology, for instance, is one of the major forces reshaping the industry. Dark stores with robotic pick and pack, app-guided and virtual and augmented reality (VR/AR) shopping, generative artificial intelligence (Gen AI) personalized content, onsite vertical farms, lab-grown meat, autonomous trucks, advanced tracking and traceability, last-mile delivery, and frictionless checkout are just a few of the initiatives competing to revolutionize grocery and the shopping experience.

But let us not conflate futuristic with the future.

It's easy to get enamored by technology and focus there. However, in addition to short-term challenges, such as inflation, staffing shortages, and supply chain failures, there may be other existential forces that are harder to perceive today but will likely become just as material. These forces are competitive, demographic, cultural, political, and even planetary in scope and scale.

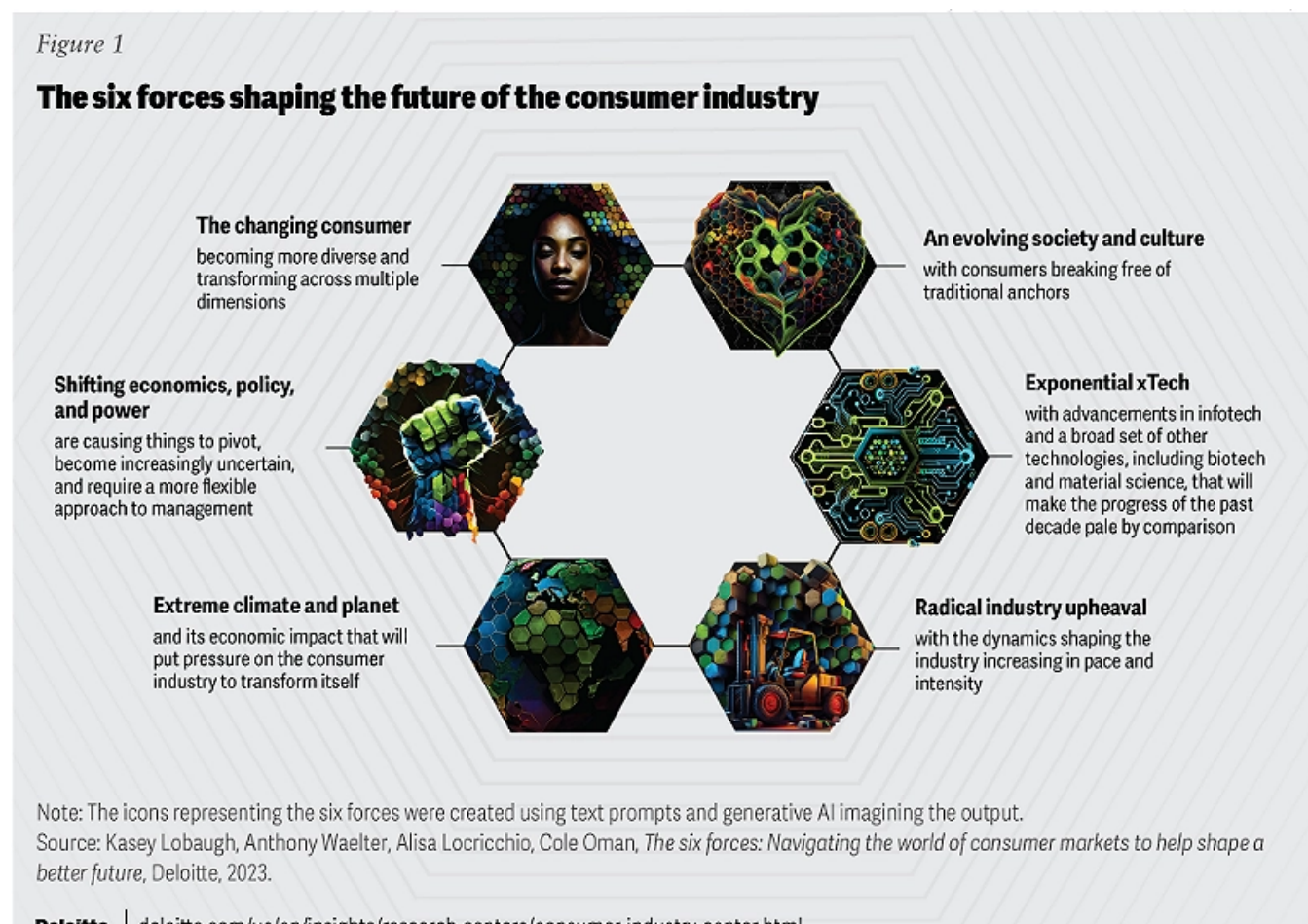
So, considering these massive forces, what is the right mix of shopping experience, channels, store formats, brands, service models, and technological wizardry that may work best for your customers and still turn a profit? This is not an easy question to answer, and the right mix will likely vary for every retailer. We hope to provide a deeper understanding of these issues so that retailers can begin to make sense of the choices in front of them.

What we do know is that the consumer, as an individual, should be at the heart of a winning business. As the industry shifts from supply-driven to demand-driven, extrapolating consumer wants, needs, and behaviors should be a north star. Building the future also requires a more complete picture of the new world emerging. It means understanding the full set of forces and their implications on the industry's markets, models, and mechanics. Those implications can be profound since the six forces we've

identified, when acting in combination, can create nonlinear change. The convergence of these forces (and their second and third derivatives) is where opportunity likely lives. Perhaps, most fundamentally, it will likely require making choices—including those that may expand the very definition of the industry. No one-sized future will fit all. But we hope this ongoing conversation will equip grocers to manage change and win.

Six forces of change

Over the last 18 months, we engaged with over 800 professionals, industry experts, clients, and consumer industry insiders to explore the future of the consumer. In search of the broader context, we also brought in economists, sociologists, policymakers, and others with unique perspectives and long-range vision. Those efforts yielded six forces we believe are important to understanding the next decade of change, underpinning our perspective on [the future of the consumer industry](#) (figure 1).³



These same forces are disrupting the nature of the grocery business. Consider the following:

- **The changing consumer:** They say demography is destiny.⁴ The nuclear family of mom, dad, and 2–3 children living in a suburb, commuting to work, and grocery shopping on the weekend no longer represents most US or, indeed, Western households. We are increasingly diverse—in age,⁵ family size,⁶ household composition,⁷ ethnic heritage,⁸ and sexual identity.⁹ The world we are headed to will likely be more racially and ethnically diverse as well as grayer, due to declining birth rates,¹⁰ immigration,¹¹ and increased longevity.¹² Income disparity is rising,¹³ as is obesity.¹⁴ One grocery format, value proposition, and channel should not be built around serving the bell-curve-average consumer that, in many senses, no longer exists. And understanding and targeting shifting consumer meal planning, locations, trips, and missions will likely be important to the growth of the grocery industry.
- **Evolving society and culture:** People, not just in their role as individuals but also collectively, are experiencing vast cultural and societal flux. One that can change not only grocery buying but also the retail workforce. The societal milestones by which many people establish buying behaviors (think education, marriage, procreation, or homeownership) no longer constitute a predictable progression. Instead, we are seeing a more complex set of behaviors, needs, and journeys emerge. People, especially younger people, seek purpose and embrace businesses that share their beliefs and values.¹⁵ But they approach these topics with skepticism and declining trust in institutions. How people are employed is also changing. Gig work is on the rise, and traditional work roles are evolving,¹⁶ bringing more women into the compensated labor force, while, at the same time, seeing large groups of men disengage.¹⁷ Naturally, how grocers organize sales into occasions and where they

find the needed people and skills to serve those occasions is changing.

- **Exponential xTech:** Every company is becoming a technology company. Just because we have heard this before doesn't diminish its importance or truth. In grocery, advanced natural language processing (NLP) and Gen AI will likely change how marketing content is developed and shoppers search for deals. Predictive analytics is at work in grocery, from supply chain management to determining effective merchandising strategies and price points.¹⁸ Other technology, such as facial recognition paired with high-speed networks, brings the digital world into the physical store and enables capabilities such as frictionless checkout. Self-driving trucks or even drones promise to close the gap on the last mile, and in-store vertical farming may turn some food sellers into food growers of the most locally sourced kind imaginable.
- **Radical industry upheaval:** Industries are converging, and consumers have a wider range of companies and offerings competing for their limited wallets. Grocery is advantaged in one sense, as people continue to need to eat no matter how exciting digital or other services become. However, even in grocery, new competitors are emerging due to lower barriers to entry. The rise of convenience as a priority, combined with delivery options, means geography matters less, undercutting the traditional advantage of store location. Platforms that can tap the gig economy to provide new sources of labor can also allow digital competitors (e.g., third-party grocery delivery) to shop your shelves and build their own businesses while capturing customer data. While many grocers are finding opportunities and blurring industry lines with private-label offerings,¹⁹ large consumer packaged goods (CPG) brands also want to own the consumer and are selling direct.²⁰ And financial bifurcation is sending customers in different directions.²¹ For instance, one set of customers seems to be focused on experience and demanding things be as easy and omnichannel as they are for their favorite digital businesses. Meanwhile, another set, in declining financial health, may be turning to discount stores and other formats to minimize price paid.

- **Extreme climate and planet:** The very environment is changing, and the effects are already with us. July 2023 was the hottest month the world has seen in recorded history.²² Global warming and rising sea levels may change where food is grown and reduce arable land.²³ The increased frequency of natural disasters due to weather events may disrupt transportation and wipe out entire crops; and so might viruses, fungi, and infestations that find new homes in warmer environments.²⁴ Managing increased costs, volatility, and potential shortages may become a new normal. In general, the grocery and food industry may be compelled to revisit their contributions to deforestation, energy usage, and consumer waste and seek more sustainable approaches to business.
- **Shifting economics, policy, and power:** The world is getting more fragmented in some ways. Tariffs, shipping constraints, and war have disrupted international food supply chains.²⁵ International cybercrime²⁶ threatens grocers whose operations increasingly rely on consumer data to function. The decisions of central banks worldwide may signal the end of an era of low-interest rates and cheap capital.²⁷ Domestically, some businesses are trying to take on more corporate responsibility in the context of a partisan US political environment where both action and inaction may bring criticism. US governmental policies, like those related to immigration, intersect with agricultural and labor issues.

Implications for grocery retail

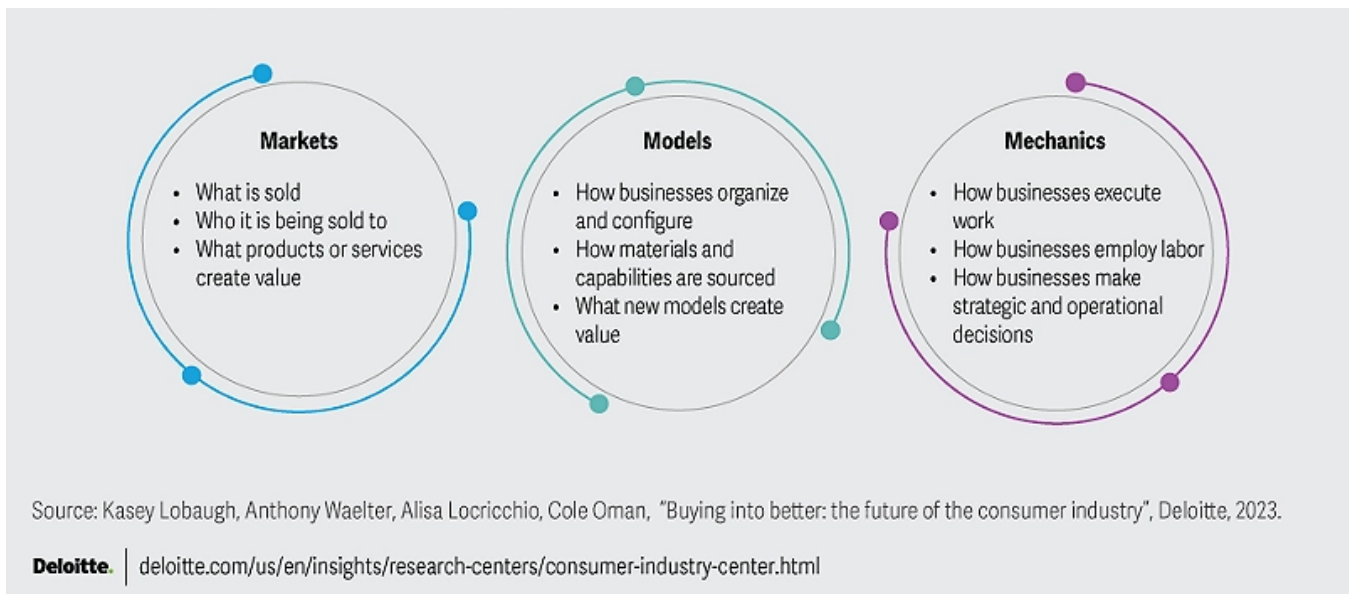
Like technology, each of the six forces described above is quite powerful in its own right. But collectively, they can amount to something more, something nonlinear, which can have major implications for the industry's markets, models, and mechanics (figure 2).

Figure 2

The markets, models, and mechanics of the grocery industry

When assessing wide-reaching change, it helps to have an organizing principle that reflects the important aspects of business.

Here we look at change in terms of the markets engaged by grocery, the models they adopt to create value, and the mechanics by which they execute.



Markets

Grocers should determine their future markets—what is sold, who it is being sold to, and what products and services create value. With a more diverse and differentiated consumer base and the technological innovations to enable it, we see a future of grocery that moves *from mass to micro*. Further, we see *responsibility as a requisite* to build trust, a sense of shared values, and positive societal contributions that the market will demand.

From mass to micro

Selling to the “average consumer” was somewhat of a convenient fiction, but until recently, grocers had little other choice. They were chasing the bell-curve middle at a time when their consumers were more uniform, and there was little available data to work with from these largely cash-paying customers. But in the future of grocery, the average may lose its convenience and utility. Consumers are becoming distinct from each other in who they are and what they want from grocers, driving the industry to consider shifting its paradigm from mass to micro.

The “who” grocers should sell to is becoming the individual. While promotions and marketing have become increasingly targeted, many other processes (think merchandising, distribution, service models, checkout, etc.) are still geared toward the

mass approach. Consider that grocery merchants have traditionally curated over 30,000 stock-keeping units (SKUs),²⁸ while the average grocery customer only buys closer to 300 products. Some hold to the idea that value is created by keeping customers in the store longer. But why make them walk past thousands of products when they only want a specific few?

Going micro is about creating the right experience for each customer and service mode in each channel. The expectation is that assortments, provided in a combination of digital and physical experiences, will match individual (and family) needs more precisely. Endless aisles of many center store items can be provided in a low-touch format, while fresh and more differentiated offerings become the new center of the in-store experience. And the store becomes a platform or stage meant to be reconfigured quickly to changing needs and experiences.

Eighty-seven percent of grocery retail executives surveyed say the marketing of groceries will become hyper-personalized

About the survey

During June and July 2023, Deloitte surveyed 100 senior executives from US grocery retailers with over 10,000 employees about the future of grocery retail.

Mass to micro also means there shouldn't be just one successful format. Blends of digital and physical, delivery and in-store, niche offerings, and high volume can be configured around local maximums for consumers who prioritize quality, value,

choice, and convenience differently. Some may, but not every store will likely look futuristic. However, even the lowest income consumer still wants it all, relative to their circumstances, and could be better served by their grocer as an individual.

Responsibility as a requisite

Climate change is a reality with which grocery should contend. It is not just a matter of setting goals and dealing with crop loss and disruptions. As the effects of climate change become more pronounced and sustainability becomes a more central purchase driver, it also means creating authentic progress and defensible claims. Climate responsibility continues to shift from a largely siloed public relations and regulatory compliance-driven function to a constituent-, shareholder-, and employee-driven imperative that should be incorporated into end-to-end business decision-making.

However, we could argue that the implication for grocers' markets is more generalizable. Consumers consider a larger set of issues as they ask the companies they do business with to be active contributors in supporting their values and identities. Your employees and investors likely feel the same way and may see silence and inaction on issues as its own form of statement, meaning companies won't have the option of staying quietly on the sidelines. No matter how quiet or loud an approach you take for communication, the implication is that companies should also understand and be true to their values and sense of purpose in a manner that is holistically incorporated into all functions.

Avoiding backlash and lost sales is one side of the implication. But if consumers believe you are looking out for them and share their values, it can open new opportunities, including competing on aspects other than price. There is the much-discussed "sustainability premium," but consider personalized health and wellness, including food as medicine.

Three in four consumers are actively seeking more personalized nutrition, up 13 percentage points year over year.²⁹ Moreover, 55% of consumers say they are willing to pay a premium for the right foods because they contribute to their health and wellness. The situation seems ripe for grocers to engage consumers through digital

apps that help guide them to healthy purchase decisions.

But for such a system to function, especially in a hyper-personalized way, consumers would need to trust their grocer with sensitive health and medical data (think weight, diabetes status, allergies, prescriptions, etc.). Only grocers seen as responsible and trustworthy, including in the domains of privacy, cybersecurity, and ethical use of technologies such as artificial intelligence (AI), can likely obtain the data to deliver this kind of digital hybrid service and benefit from increased loyalty and sales.

Models

Grocers should decide how their businesses are organized and configured, determine how their capabilities will be sourced, and develop new models to create value. Given changing consumer demands and new competitive pressures unleashed through industry upheaval, we see a *radical industry reconfiguration* coming for grocery retail, as it faces up to new competitive realities and pushes the traditional bounds of the addressable market. Strained and decoupling global trade relations and the global food system suffering from climate change likely imply a *seismic supply chain shift* that could transition more of the supply chain to local sources, including onsite production.

Radical industry reconfiguration

Many of the traditional competitive barriers in the consumer industry are coming down, as more capabilities can be delivered as a service. What was once a “build vs. buy” question likely isn’t the right question anymore. A new grocery competitor

Two in three grocery retail executives surveyed say food as medicine could significantly increase sales of healthy food

doesn't necessarily need to own stores or warehouses, nor does it need to have any employees. Competition can come from digital outsiders (think third-party shopping apps) or from changing dynamics within the current value chain.

On the value chain, consider that the predominant grocery model of today was in part built on national brand pillars, relying heavily on CPG companies to shape and support assortment, pricing, and promotion strategies, with their name recognition and consistent discounts driving choice for consumers. But that relationship may be showing signs of competitive stress. Several CPG companies have made explorative forays into direct-to-consumer models and are building their own or working with third-party customer loyalty apps that bypass the retailer.³⁰

Grocers too are making their forays into traditional CPG territory, and in our executive survey, almost half of grocery retail executives see national-brand CPG partnerships becoming less important over time. Grocers are using their customer relationships and data to add more store-branded offerings. These private labels help stores to differentiate and increase profitability, and 92% of grocery retail executives in our survey think it will be a major and growing source of revenue. These dynamics and many others will likely reshape how grocers and CPG companies partner to meet new consumer needs and, ultimately, where grocers need to realize their profit from across their entire value chain.

The reconfiguration can also open new opportunities. For the last century, grocers have been competing for customers' share of wallet, basket by basket. But lower competitive barriers and capabilities delivered as a service work both ways. They can help grocers expand their addressable markets to pursue greater "share of life."

They can add new offerings and be a kind of life solution center, promising to save shoppers time and money with improved taste, health, and experience—at higher profit margins than the traditional model. No longer must they own, so

**Seventy-
one percent
of the**

they can speed up the addition of these broader capabilities.

Grocers also have value to offer to other businesses. Look at the rise of retail media, where grocery technology draws in targeted marketing revenue for access to a very targeted audience. Some visions of food as medicine involve taking insurance or employer subsidy payments for medically tailored meals, introducing a new ecosystem of partners that grocery's capabilities can serve. Future grocery revenue and profit may come from new quarters.

Seismic supply shift

Consumers love having peak-quality fresh produce of every variety, including exotic produce, at all times of the year, no matter the season or latitude where they live. They also like paying low prices for packaged food and household goods created from commodities sourced from and manufactured in the most economically efficient countries. But the system supporting this global approach is getting more complicated.

Political tensions and tariffs are often making global sourcing riskier and more expensive. The pandemic exposed weaknesses in worldwide transportation and shipping. And growing conditions and food miles are coming under increasing scrutiny. In fact, food can travel a thousand miles before we consume it, with all the carbon that comes with it. Such distances do not sit well with customers who are becoming more interested in buying local, knowing where their food comes from, and how it got to them. Hyper-personalization also means adapting what's stocked to community-specific preferences. There will likely always be a global food supply chain, but there should be a seismic shift in how grocery supply will work.

**grocery
retail
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consumers**

Fortunately, there are new technologies and approaches to providing more supply locally. For instance, take the advent of controlled environment agriculture (CEA), which can use AI to adjust environmental factors such as temperature, light spectrum, H₂O, and CO₂ to drive and scale new product innovation that is not possible in field-grown environments. More regional manufacturing can enable grocers to access faster supply chains with fresher food produced on demand, limiting food miles, waste, and resources. Seven in 10 grocery retail executives in our survey say they will likely shift food supplies from global to more local. Plant-based and cultivated meat and other novel sources of calories and nutrition may further alter the landscape. Advances in autonomous vehicles may also have a role to play, especially since over half of grocery executives surveyed expect more frequent deliveries to stores in the coming years.

A highly personalized food system should be a highly integrated one, blurring the traditional lines between producer and retailer. For example, a vertical farm collocated with a grocery store could be the most locally sourced food yet, expanding what's possible in "private label" offerings. More integration is also needed to create more transparency and traceability in all parts of the supply chain, global and local. The companies in our 2023 industry outlook that are poised for profitable growth are twice as likely to invest in increasing the level of transparency provided to consumers and other stakeholders.³¹

Mechanics

Grocers should choose how to execute, employ labor, and prioritize operational decisions to create value. Exponentially more powerful technology can create substantial advantages and

Four in ten grocery retail executives surveyed see store-managed food production (in some cases including onsite vertical

new opportunities, enough to portend an *age of algorithms and automation*, even for the sometimes technology-reluctant grocery industry. These technologies can also change the demand for and economics of labor. Societal and cultural changes are shifting what labor will demand of employers. New *workforce extremes* are likely to manifest.

farming) for most of their stores in the next 5–10 years.

The age of algorithms and automation

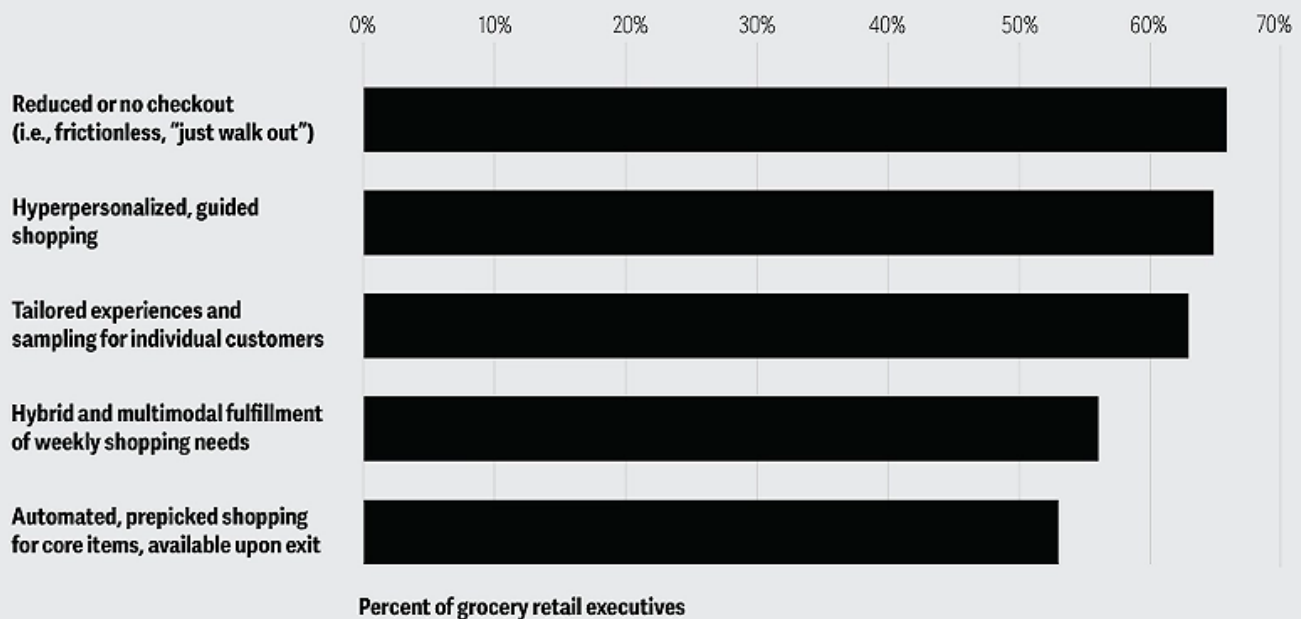
Understanding consumers' lives and how best to support their needs is a key to higher margins. But going from mass to micro requires a lot of data, likely even more than stores currently generate. Almost eight in 10 grocery retail executives think that more third-party data will need to be incorporated to know their customers better. Putting all that data to use requires advanced analytics and machine intelligence to cut the complexity down. Even then, too many decisions will likely need to be made, too quickly to be done by humans. Grocers should operate aspects of their front and back office with a “hands off the wheel” approach. The implication is that grocers will need to lean on—and into—algorithms and automation.

The future of grocery retail will likely use data, algorithms, and automation to drive new, highly efficient, precision-based, agile businesses built to sense and respond to granular signs of changing consumer demand. What this may mean for the shopping experience and specific store models amounts to a pendulum swing. For years, grocers have asked customers to do more and more themselves—shop the shelves, scan their items, bag their groceries, etc. But with algorithms and automation, there is the potential to make technology ambient and seamless to do more on behalf of consumers, based on their individual needs and preferences. This approach could blend online or otherwise digitally enabled experiences, including those facilitated by Gen AI, with the best tactile shopping of the past. Grocery retail executives in our survey expect some of these changes in the next 5–10 years (figure 3).

Figure 3

Top five technology-enabled changes coming to the grocery shopping experience

What will grocery shopping be like for your customers within the next five to ten years? Please select all that apply.



Source: Deloitte grocery retail executive survey (n = 100).

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Algorithms and automation have a role behind the scenes too. Dark stores with robotically operated pick-and-pack operations come to mind, as well as more mundane tasks such as evaluating stock and freshness. Most grocery retail executives in our survey see technology-enabling real-time inventory with high accuracy in the next 5–10 years (77%). There are also examples of retailers using AI to manage their supplier negotiations.³²

Workforce extremes

The grocer of the future should have a workforce where everyone is a builder, capable of enabling solutions that support rapidly changing consumer needs while maintaining low-cost and high-margin delivery. But people with this skill set do not necessarily seek to work in grocery, often preferring big-name tech companies. At the same time, the industry has many lower-skilled tasks subject to, at least partially, being automated or otherwise assisted by technology. The local grocer has historically been

a significant employer in the community, so technology and employment strategies should consider the effects on a grocer's goodwill in the market. Meanwhile, employees of all kinds seek more flexible and fulfilling roles. The implication is an industry that will likely be facing workforce extremes.

In some respects, this “future” challenge is already here. The grocery retail executives in our survey say talent availability (41%), talent retention (40%), and attracting emerging and in-demand skills (36%) are their most significant workforce challenges. The number of grocery executives saying that sourcing and managing alternative workforces (i.e., freelance, gig) was a major challenge increased almost four-fold from 2021.³³ Challenge is also visible in the shift in how grocers value the skills of their nonmanagerial workforce—they say the skills most likely to increase in value over three years are digital (87%), adaptability (85%), leadership (81%), and critical thinking/complex problem-solving (79%). At the same time, the skills least likely to increase in value are physical and manual skills.

As grocers work to reinvent the customer experience, they should also reinvent the employee experience to help overcome some of these obstacles. The workforce wants technology to support their job, which likely includes multiple roles. For instance, in-store associates might be called upon to help digital consumers and in-store shoppers via omnichannel fulfillment. The flexibility the workforce desires can be helped by more gig-work-like scheduling systems and incentives. These same systems may help grocers pay for tasks and productivity rather than merely hours on the job. For workers displaced, grocers should take an active part in reskilling and upskilling—whether for employment in their stores or working elsewhere in the community.

Eighty-four percent of the grocery retail executives surveyed think the store associate experience needs to be

Implications combined: Concept for the store of the future

as good as the consumer experience

The roughly 30,000 products people call “groceries” are not all the same.³⁴ Consumers want some of them quick, cheap, and convenient. For other items, they want to linger over, sample, and ponder.

The six forces and their implications for grocery retail’s markets, models, and mechanics point to a very different industry in the years ahead. However, that doesn’t mean the store won’t be important to grocery’s future. Grocers should listen very closely to understand which items their shoppers want to see in-person and which can be fulfilled out of the store, and then realign physical space to better serve those needs. To compete with the immediacy of the online world, grocers should use their stores as differentiating assets. The store of the future should provide novelty, expanded assortments, theater, and physical experiences that can’t be matched in the virtual world. It should be a “destination.”

There will likely be many successful store formats, containing products and service offering combinations best suited to a given community. Some will undoubtedly be low on frills and price. But below is one vision for the store of the future meant to demonstrate how it fits into a new role. It brings together many concepts related to the future of grocery retail, all of which are operating at some level in the world today (figure 4).

But greenfield construction may not be an option in many cases, so some grocers may need ideas for retrofitting existing stores (figure 5).

Change and choice

Knowing the forces acting on the industry and their implications for grocery’s markets, models, and mechanics is a starting point, but the future of grocery retail will

likely need to be an ongoing conversation. And it can play out differently for different companies. To make these changes, some may need to first grapple with culture, ownership, or organizational structure. Others may need to confront the reality of their current physical footprints. How to make the kinds of investments required on already thin margins while also addressing near-term priorities presents a barrier for many.

We can't predict the future, and getting there won't be easy. But all of us have agency in building it. There will likely be many combinations of the elements discussed here that find success, but it's important to choose those that are best fit for you and your customers. Also, invest in the future you would like to see. It can be a better and more profitable one than what we have today. Like consumers, you have a choice.

For a deeper dive into how one exponentially evolving technology may affect the grocery industry, read [Generative AI goes grocery shopping](#).



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Daniel Edsall

United States

Christopher Gray

United States

Jamie Witherspoon

United States

Maureen McDonnell

United States

Adam Almond

United States

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