CENTER FOR DIGITAL DEMOCRACY

Does buying groceries online put SNAP participants at risk?

How to Protect Health, Privacy, and Equity

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In April 2019, the United States Department of Agriculture (USDA) Food and Nutrition Service (FNS) announced the roll-out of a new two-year online purchasing pilot, as part of its Supplemental Nutrition Assistance Program (SNAP). The pilot, which was authorized in the 2014 Farm Bill, is designed to enable SNAP participants to take advantage of technological changes in shopping and e-commerce, allowing them to pay for their groceries online with their electronic benefit transfer (EBT) cards (the contemporary version of what used to be known as "food stamps").

are children.[2] The economic impact of the continuing pandemic has already forced millions of people into financial jeopardy, making the program even more essential in the coming months and years, and intensifying longstanding policy battles over its future.

Because of widespread stay-at-home orders in response to the pandemic, many consumers have been turning to the internet in huge numbers for their basic food and other household needs, and to shield themselves from exposure.[6] Even before the current health crisis, shopping and paying for products exclusively through the internet—known as *e-commerce*—were already becoming routine activities for a growing number of individuals and families.

Though the USDA does not allow EBT cards to cover the costs of home delivery, some large retailers are offering this service for free; others enable consumers to buy online and pick up at curbside without having to enter the store. The online pilot initially started in New York state, but quickly evolved to include several dozen states and the District of Columbia. Expansion of the pilot has accelerated in the midst of the Covid-19 pandemic, and it is now available, at last count, in 37 states. There is rising pressure at the state and national levels to extend the online ordering program to all SNAP participants, and to subsidize the cost of home delivery.[1]

For decades, the Supplemental Nutrition Assistance Program has been the nation's "first line of defense against hunger," serving families with low incomes who need food assistance. Prior to the start of the current health crisis, SNAP helped to feed approximately 40 million Americans each month, 44 percent of whom

SNAP at a Glance

For decades, SNAP has been the nation's "first line of defense against hunger," serving low-income families who need food assistance.[3] In fiscal year 2018, over 81.4 percent of SNAP households had gross incomes at or below the poverty line. Forty-one percent of SNAP benefits went to households with children, 21 percent to households with disabled persons, and 26 percent to households with senior citizens. Whites make up 35.7 percent of SNAP participants, while 25.1 percent are African American, 16.7 percent Hispanic, 3 percent Asian, and 1.5 percent Native American (with 17.4 percent of respondent's race unknown).[4] Research shows that SNAP reduces poverty and food insecurity, and that over the long term, these impacts lead to improved health and economic outcomes, especially for those who receive SNAP as children.[5]

Today, people can buy nearly anything they want through their home computer or their mobile phone and have it delivered directly to them, even the same day. [7]

Online purchasing via the EBT card could be a very positive development for SNAP participants. In its initial announcement of plans for the new program, the USDA touted the public health benefits, explaining that it "could improve access to healthy food for those living in food deserts—areas with sparse options to buy healthy groceries—or for those who are unable to physically shop on their own due to a disability or transportation barrier," and proclaiming that with the new system, "Healthful Foods Could Be Just a Click Away."[8] Limited availability of fresh food is a serious problem that primarily affects low-income communities and communities of color in inner-cities, rural areas, and some older suburbs.[9] And this lack of access is one of the factors that has led to the alarming rates of overweight and obesity among many of these populations.[10] (See Sidebar: The Obesity Epidemic Threatens Communities of Color and Low-Income Groups.)

People who need government food assistance should be given access to the same kinds of online services that others in our country are using to feed their families without having to increase their risks of becoming ill. The SNAP online purchasing program could be a vital tool for achieving that goal. However, as this report will show, it could also expose participants to increased data collection and surveillance, a flood of intrusive and manipulative online marketing techniques, and pervasive promotion of unhealthy foods. While all U.S. consumers who use online ordering services face many of these risks, SNAP participants are likely to be disproportionately harmed by them.

In the following pages, we present the results of our research on the eight retail companies chosen to participate in the SNAP online purchasing pilot as of May 2019.[17] Our study reveals that the companies in the initial pilot program are deploying a broad spectrum of data-driven targeting and e-commerce practices that are at the center of today's digital marketplace. The entire e-commerce system has evolved in a largely unregulated environment, where

The Obesity Epidemic Threatens Communities of Color and Low-Income Groups

The USDA's online purchasing program is being launched at a time when obesity rates in the U.S. continue to rise unabated. According to the Centers for Disease Control and Prevention (CDC), nearly 40 percent of adults are obese. Rates are even higher among low-income groups and communities of color. These populations are at much greater risk for serious illness, including Type 2 diabetes, high blood pressure, and heart disease, which are directly related to obesity.[11] The CDC suggests a number of underlying factors that may explain these health disparities, including higher rates of unemployment, lower high school graduation rates, greater levels of food insecurity, fewer opportunities for physical activity, and targeted marketing of unhealthy foods.[12]

There has also been a dramatic and disturbing rise in obesity among children and youth over the past several decades. The prevalence of obesity is 13.9 percent among 2- to 5-year-olds, 18.4 percent among 6- to 11-year-olds, and 20.6 percent among 12- to 19-year-olds; for Hispanic and African-American youth, the rates are 25.8 percent and 22.0 percent respectively.[13] One of the biggest contributors to this health crisis is the overconsumption of processed foods, which have high levels of sugars, calories, and fat, and which tend to be cheaper and heavily advertised. Research has repeatedly shown that marketing of these unhealthy products directly influences young peoples' food and beverage preferences, purchase requests, and consumption.[14] Even when controlling for weight, some studies have shown that people who consume processed foods are at greater risk of developing Type 2 diabetes.[15]

A recent report published in the New England Journal of Medicine projected that by 2030, nearly half all adults in the U.S. will be obese, with substantially greater levels of obesity and severe obesity among low-income populations and communities of color.[16]

no federal or state policies provide adequate protections for consumers. Neither the USDA, nor the companies in the pilot program, offer sufficient protections to SNAP participants. We explain how these practices may affect the health of SNAP families. And we discuss the implications of our findings in the context of the growing body of research on the impact of Big Data on discrimination, equity, and social justice. We offer our recommendations for a set of robust regulatory safeguards, industry commitments, and ongoing accountability mechanisms to accompany the full implementation of the SNAP program across the country. Finally, because shopping online is likely to become the "new normal" for everyone in the coming years, we argue for strong, comprehensive government policies to ensure privacy, security, fairness and equity for all U.S. consumers in the Big Data era.

SHOPPING FOR FOOD IN THE ONLINE RETAIL SURVEILLANCE SYSTEM

The SNAP online purchasing pilot is being launched at a time of dramatic technological changes in the grocery and retail industries. The phenomenal success of Amazon as a leader in online shopping has triggered a growing migration of major retailers into the e-commerce business. Walmart reported a 43 percent growth in its online retail operations in the 4th quarter of 2019, with grocery shopping at the heart of this trend.[18] Retailers and grocery brands are also investing heavily in digitizing store operations, the supply chain, merchandising, and the back office. They are expanding their data operations, developing new data-driven applications, and turning to online and mobile marketing to boost sales. U.S. grocery e-commerce, the fastest growing sales category online.[19] The recent shelter-in-place orders have greatly accelerating this projected growth.[20]

But while many people are becoming intimately familiar with the *experience* of shopping and buying online, most of them are completely unaware of how e-commerce actually *works,* or what its implications are for themselves and their families. Behind the ease of buying groceries and other consumer goods and services online is a highly sophisticated Big Data apparatus that integrates marketing, product promotion, pricing, inventory supply, ordering and delivery. Leading retailers, grocery chains, and food and beverage companies are using the latest advances in data analytics, behavioral science, and communication technologies, and combining them with new methods of persuasion to influence consumers' purchasing decisions. They are also forging powerful partnerships among social media and other online platforms, publishers, food manufacturers, retail companies, and others. The leading food and beverage brands—including Mondelez, Pepsi, Coca-Cola and Unilever—have all established their own in-house Big Data operations.[21]

The longstanding enterprise of *multicultural marketing* has also swiftly moved into the Big Data era, fueled by the increasing diversity of the American population, and the associated purchasing power. African-American and Hispanic buying power will reach $1.54 trillion and $1.9 trillion, respectively, by 2022. Asian Americans, African Americans and Latinx consumers are also in the forefront of those who use smartphones, streaming video and audio, messaging apps, digital wallets and similar services.[22] Retailers and food marketing companies view communities of color as a particularly important target for their digital marketing efforts. For example, IRI's "Hispanic Insight Advantage" service enables marketers to use "precise data science" and "ethnic segmentation" to "better understand brand preferences of Hispanics across all available

markets and geographies."[23] A new advertising industry initiative—the Alliance for Inclusive and Multicultural Marketing (AIMM)—whose membership includes leading brands, agencies, and research companies, has been formed to develop more effective data use and other practices to reach communities of color, as well as LGBTQ+ markets.[24]

INSIDE THE "BIG DATA" E-COMMERCE BLACK BOX

The retail outlets and grocery chains chosen to participate in the USDA's online purchasing pilot program are at the epicenter of today's changing retail marketplace, with several of them playing a leadership role. (See Sidebar: SNAP Pilot Retailer Profiles.) Based on our analysis of online documents from these companies, as well as from the information they have provided about their data operations in their individual privacy policies, we have identified eight features that are emblematic of contemporary digital e-commerce. Together, they constitute an entirely new system of engaging with consumers, which has significant implications for health, privacy, and equity.

1. **Retailers and online e-commerce companies access unlimited amounts of information on consumers—including highly sensitive data—and use it to identify and target individuals wherever they go, online and off.** Data is at the heart of today's retail and e-commerce marketplace, with the goal of gathering as much detailed information about each customer as possible in order to target them individually with personalized messaging and interactive experiences. Data analytic systems enable retailers to access, analyze and act upon a wealth of information on consumers—including their purchasing behaviors, device use, geolocation, social media interactions, online interests, financial status, race/ethnicity, age, health concerns and more—to gain granular insights into how, when, where, and why people buy food, beverages and other products.[44]

Major food and beverage companies, often working with retailers and grocery and convenience stores, use this information along with a host of data-driven techniques to promote the sales of fast foods, snacks, soft drinks, and other products that have been linked to poor health outcomes.[45] The companies chosen to participate in the SNAP pilot program are all engaged in this process of data collection and analysis, drawing from a broad array of sources.

- Amazon is an obvious leader in this data-driven enterprise, bundling data provided by advertisers with its own expansive store of granular knowledge about its consumers' behaviors, including when they use mobile phones, watch streaming videos (such as Amazon's Fire TV) or use personal computers.[46]

- The Walmart Media Group (formerly known as the "Walmart Exchange"—WMX) enables food, beverage, and many other brand marketers to take advantage of the retail giant's "shopper data at scale," providing "a direct connection to hundreds of millions of Walmart shoppers," and tapping into "billions of shopper behaviors based on 150 million omnichannel shoppers every single week—every search, every click, every transaction." By leveraging these massive amounts of data, the company explains in its online sales materials, it can "best predict intent to purchase, both in store and online," identifying those individuals "with the highest propensity to purchase your products."[47] Walmart's Data Café analytics hub, based at its headquarters, is designed to "make sense of all the data collected across its more than 20,000 stores," so it can engage in "real-time" insights used for marketing, pricing and other business decisions.[48] The Café (which stands for Collaborative Analytics Facilities for Enterprise) is part of Walmart's work to

build "the world's largest" private data cloud. Coca-Cola is one of Walmart's "shopper marketing" partners developing numerous online and in-store campaigns to heavily promote the soft drink.[49] Walmart and Amazon have also moved into financial, health, and other markets, enabling them to expand their consumer data holdings. (See Sidebar: From Grocery Data to Information about Finances and Health.)

- Regional online grocer FreshDirect uses software from IBM and other data analytics companies "to gain a single view of customer activity across the digital channel, and develop tailored communications based on fine-grained customer segments." This process enables the retailer or brand marketer to know, in very intimate and precise detail, not only what particular brand or product an individual customer buys, but when, where, and how often the purchase is made.[50] FreshDirect recently chose the "Selligent Marketing Cloud" to "deliver personalized customer experiences" driven by "demographic, behavioral and transactional data" that provides "a unified view of the customer." Selligent generates a "super-profile... a 360-degree view," enabling clients such as FreshDirect to "analyze and precisely target consumers."[51]

SNAP Pilot Retailer Profiles

In 2016, the USDA announced it was "seeking retailer volunteers" for the new SNAP online purchasing pilot. Companies wanting to participate had first to address a number of technical issues, including payment processing and data security. Eight retailers were chosen to participate as of May 2019. The following are brief profiles of the companies and their e-commerce operations.

AMAZON

The leading online site has its own data-driven targeting system that enables brands and retailers to reach their "ideal audience on and off Amazon." By buying search ads based on keyword targeting, purchasing display ads, and "sponsoring" products, marketers can use the power of Amazon's advertising service to microtarget individuals with ads and promotions, whether they are shopping at Amazon.com or viewing online content elsewhere. Amazon Advertising is the third-largest digital advertising platform in the U.S., and likely to increase its market share further.[25] In addition to acquiring Whole Foods, Amazon has positioned itself to play a greater role in selling consumer packaged goods (CPG). It has encouraged companies like Mondelez and General Mills to sell brands such as Oreos and Cheerios directly to consumers online, and is also expanding its own "private-label" product sales.[26]

DASH'S MARKET

The New York state chain's online-ordering system uses digital services provided by an outside ecommerce provider. Dash customers who buy online, either for store pick-up or home delivery, are told to sign up for "Rosie," its "online shopping partner." Rosie provides grocery stores an "online shopping platform for mobile and web [including] eCommerce, delivery opportunities, omnichannel marketing and deep data services."[27] Rosie has also developed a payment-processing system for mobile and online commerce, working with First Data. SNAP participants can pay for the Dash orders "directly through the Rosie app."[28] It also has a partnership with ShoptoCook, which provides stores with a variety of services that include online circulars, recipes, and digital discount coupons. The coupons are delivered by a digital marketing firm that features products from leading providers of snack foods and sugar sweetened beverages.[29]

SNAP Pilot Retailer Profiles (contiued)

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FRESHDIRECT

An online grocer that considers itself a "food technology company, it sells and delivers in the New York City, Philadelphia, and Washington, DC, areas. FreshDirect has worked with a variety of technology companies so it can "get its customers what they want, when they want it, before they know it."[30] FreshDirect's online ordering system enables customers to click a re-order button that will fill up a shopping cart with previously purchased items. It also features a "deals and coupons" section.[31]

HY-VEE

The Midwestern chain offers a number of ways to reach customers in all its 240 retail stores. Its "Aisles Online" website is designed to incorporate one million or more products.[32] It also promotes its services on Facebook, Twitter, Instagram and other social media sites. The company calls itself a "grocery tech company," has created an "innovation lab," and develops both mobile and web-based digital applications.[33]

SAFEWAY

Owned by Albertsons, Safeway is connected to a sophisticated ecommerce and digital marketing program.[34] Safeway's "successful digital marketing strategy" was one of the attractions for its 2015 acquisition by Albertsons, along with the 25 years of Safeway "purchase data from their loyalty program [that] provided the foundation to build algorithms."[35]

SHOPRITE

The Northeastern chain is operated by the Wakefern Food Corporation and considers itself a "pioneer" in applying digital technologies to its supermarkets.[36] Wakefern's online strategies include digital coupons, a mobile app, and the ability to leverage its large database of customer emails to send "targeted offers based on past purchase behaviors." Wakefern works with digital commerce specialist Mi9 Retail, which touts its capability to drive larger basket sales through targeted advertising.[37]

WALMART

An estimated 18 percent of all SNAP benefits, or roughly $13 billion annually, were spent at Walmart in 2019.[38] The leading retailer has made significant investments over the last several years to build an online marketing and ecommerce infrastructure.[39] It acquired online retail company Jet.com in 2016 to help boost its mobile marketing services, such as its app and Walmart Pay mobile payments platform. Jet is known for encouraging customers "to place more products into their shopping carts for a chance to receive bigger discounts."[40] The "technical powerhouse behind Walmart Global eCommerce" is Walmart Labs, based in Silicon Valley. The Labs "employ big data at scale," from "machine learning, data mining and optimization algorithms, to modeling and analyzing massive flows of data from online, social, mobile and offline commerce."[41] The retailer's sophisticated in-house data and digital marketing practices are continually evolving, including through a series of acquisitions such as its 2019 acquisition of Polymorph Labs.[42]

WRIGHT'S MARKET

The Alabama-based store began offering online ordering in 2016 with its "Wright 2 U Online Shopping and Home Delivery" service. Customers can receive text or email notifications when an order is placed, including "abandoned cart reminders" when "they add products to their shopping cart but do not purchase." It offers online coupons distributed by digital marketing specialist Quotient, which provides digital marketing services for leading food and beverage brands.[43]

From Grocery Data to Information about Finances and Health

Walmart and Amazon continue their push into markets beyond retail, further expanding their abilities to amass data on their customers and to intrude more deeply into other areas of their personal lives.[52] For example, Walmart provides an array of financial services, including credit cards and money transfers. Amazon offers credit cards and also engages in "cloud-based" activities for leading financial companies.[53] In June 2017, Amazon unveiled "Prime Reload," which gives its Prime users "a 2 percent bonus" credit if they use their debit card to transfer "cash directly into an Amazon account."[54] It also offers consumers with limited incomes—a "nearly 20% segment of the U.S. population…who obtain government assistance with cards typically used for food stamps"—a lower cost for its Prime service. Such consumers (who are said to earn $50,000 or less per household) are among the fastest growing group of Amazon Prime customers.[55] Both companies have also entered the healthcare marketplace, with Walmart already delivering "420 million prescriptions a year," and operating "numerous vision centers," as well as health clinics that "supply primary care, manage on-going conditions, hold physicals and conduct lab tests." At the 2020 Consumer Electronics Show (CES), a Walmart representative of "customer experience and strategy for health and wellness" explained that health services are "part of the ecosystem" of the company: "We have 150 million shoppers who are coming in [to stores]. This is a convenient opportunity for them to combine a trip to pick up groceries, get their healthcare…." According to a report on the presentation, "[A] grocery retailer like Walmart could fuse personalized medical and dietary recommendations with the ability to purchase relevant food items, all at one location."[56] While this expansion of services may be more convenient for consumers, it also raises serious privacy concerns by enabling large retail corporations to gain unprecedented access to highly sensitive medical and financial information without adequate legal protections.

2. **Companies draw from an expanding arsenal of advertising technology ("adtech") software, services, and tools to segment both individuals and groups into highly granular targeting categories, and to engage with them not only on retailers' sites, but also across multiple channels.** E-commerce platforms and online retailers are part of an integrated chain of relationships known collectively as advertising technology (or "adtech"). They include ad agencies, data brokers, "marketing clouds," data management platforms (DMPs), "lead generators," artificial-intelligence ad specialists, media companies, measurement providers, and many others. Massive amounts of information from individuals and groups of consumers are continually analyzed to determine the most effective method to influence their behaviors.[57] Algorithmic decision-making relies on statistical methods, such as regression analysis, and increasingly on artificial intelligence, to find patterns and clusters in the behavior or characteristics of groups of online users.[58] These "black-box" algorithms can identify and classify segments of consumers automatically and on an ongoing basis, assigning scores, and sorting groups and individuals into preferred buckets of targets, each of which can be treated differently.[59]

Through a process known as *personalization,* marketing messages are tailored to each user, based on an individual's interests, friends, routine actions, local conditions, and device in use. In this way, marketers can single out, for example, an individual who frequents fast-food restaurants and buys candy and snack foods at the store, along with other profile information such as income and television-viewing habits. Retailers and other marketers can also follow, track, and target individual users across all of their digital devices, relying on a single identifier to determine that the same person who is on a social network is

also viewing a TV program and later watching video on a mobile phone.[60] Ads tailored to individuals can be delivered through *programmatic advertising* systems that allow marketers to purchase an opportunity to reach the individual with a targeted ad, or to *"show an ad to a specific customer, in a specific context."*[61] Through *look-alike modeling,* companies are able to infer characteristics about a consumer without directly observing a person's behavior, collecting data, or obtaining consent. They do this by "cloning" their "most valuable customers" in order to identify and target other prospective individuals with the same or similar demographic and behavioral profiles.[62]

The companies chosen to participate in the USDA's online purchasing pilot make extensive use of these adtech systems. For example:

• Safeway's parent company operates "Albertsons Performance Media" (APM) platform, which "gives brands access to proprietary shopper data to target shoppers on digital channels and drive sales across the retailer's network for more than 2,300 stores in 35 states."[63] Among APM's clients are Pepsi and General Mills.[64]

• Amazon enables its participating marketers to engage in look-alike modeling, where advertisers can "reach customers who exhibit similar behaviors."[65]

• Amazon and Walmart operate their own proprietary demand-side platforms, programmatic ad-decisioning systems that leverage "billions of interactions" to generate ads for marketers who successfully bid for the right to have their advertisements placed before specific individuals.

• Mi9Retail, whose clients include Albertsons', Safeway, Peapod, Shoprite, and Wakefern, claims that its customer-centric analytics can "[U]nderstand your customers' behaviors over time to more effectively map their

buyer journeys [and] Identify and segment your customers by their propensity to buy, incorporating demographic, geographic, psychographic, and social data to launch more effective campaigns."[66]

3. **With more than 240 million people in the U.S. using smartphones, marketers routinely deploy *geolocation* technologies, which tap into consumers' location data and follow their movements and activities.** The widespread adoption of mobile phones has given marketers not only the ability to reach someone "on the go," but also to capitalize on their movements throughout the day.[67] Mobile devices continually send signals that enable advertisers to take advantage of an individual's location data, including through the phone's GPS (global positioning system), Wi-Fi and Bluetooth communications, proximity to cell towers, and its Internet Protocol (IP) address.[68] Retailers, grocery, and convenience stores, food and soft drink brands, as well as quick-service restaurants, have all adopted new ways to use the data generated by smartphones and other mobile devices.[69]

Geolocation strategies involve extensive and detailed analysis of the "places" that people visit, generating new insights to help food and beverage companies track, identify, analyze, and target customers.[70] "Place data" can include the characteristics of a neighborhood, such as its ethnic/racial mix, income level, customer information from loyalty programs, and online tracking information.[71] *Geoframing* can be used to collect data about customers at a particular location and then use that data for future retargeting, cross-selling or upselling. It enables marketers to identify a consumer who has been at a specific location and can then be subsequently targeted online.[72] Geolocation data can also be used to draw very sensitive inferences about individuals, including health status.[73]

All of the companies originally selected for the SNAP pilot deploy geolocation and mobile marketing strategies. For example:

- ShopRite worked with a leading advertising technology company to redesign its app for Apple devices to incorporate geolocation and to offer a "comprehensive grocery ordering, delivery, and pick up eCommerce solution."[74]

- Albertson's APM platform creates "immersive" advertising content, promising to "drive action" and "location-based messaging" through personalized and targeted promotions.[75]

4. **Retailers offer a wide variety of online incentive and rewards programs—including loyalty cards, digital coupons, cash-back dividends, redeemable points, discounts, contests, and sweepstakes—that require consumers to surrender detailed records of their grocery shopping in order to save money.** All of the companies in the pilot offer loyalty cards and other rewards programs, which give customers the opportunity to save money when they purchase groceries and other necessities for their families, online or in-store. Through *branded mobile apps,* "promotions that align with a shopper's purchase history" can be sent directly to a consumer's mobile device. While these kinds of incentive programs have been around for a long time, they have become much more sophisticated in the digital age, and are one the key tools used by grocery chains and other retailers to engage in data-driven marketing.[76]

- Dash's Market works with an e-commerce grocery marketer called "Rosie," which enables the grocer to send "special offers" via text messaging through a customer's mobile device. The system also allows Dash to personalize its loyalty offerings, such as "rewards and incentives for joining"—including points and cash back.[77]

- Safeway's "Just for U" app, which Albertsons has adopted for its stores, delivers personalized coupons and "deals" in a way highly visible to the customer. The app is "personalized" to each particular household based on a shopper's behavior both at its stores and online. Through its use of Alation collaborative analytics technology, Safeway has been able to analyze data to gain "faster, more accurate customer loyalty insights… intricately and individually anticipating its customers' buying behaviors." It has also helped spur additional online "shopping trips." This "personalized digital marketing delivered hundreds of thousands of dollars of additional revenue" and "generated other cost-savings," according to an award that Albertsons received for its online marketing work.[78]

- In order to use Hy-Vee's digital coupons, customers have to activate a "Fuel Saver + Perks" card and also have an online account. The loyalty and rewards program enables Hy-Vee to compile a record of each customer's purchases.[79] The company promotes itself across online media channels, and also conducts sweepstakes, such as its 2020 "PepsiPepsi" Super Bowl promotion, which customers enter by purchasing a Pepsi or other Frito-Lay product.[80]

5. **Brands are playing a greater role in ensuring that their products are highly visible on the digital shelf in order to increase their portion of online sales as well as overall "basket size." With their bigger ad budgets, companies marketing processed foods can eclipse those promoting healthier, less expensive products.** For decades, brand marketers and retail stores have deployed a number of strategies for ensuring that particular products are placed in the foreground of consumers' attention and shopping experiences. These have included the use of "slotting fees," where companies pay for favorable placement of their brands on a store's shelves. Such strategies are being replicated in the online e-commerce environment, and are combined

with all of the data-driven personalization and targeting techniques described above.[81] Online brands can make their products more "discoverable" by operating or influencing search engines, and facilitating the ease with which consumers find their products online through optimized keywords on search engines, and personalized email offers based on individual shopper data. Individuals receive unique recommendations, offers and discounts, and reminders at check-out in an effort to boost product sales.[82] A key goal is to expand shoppers' spending on a continuous basis, having them buy in greater quantities and to purchase more expensive products online. Many of the e-commerce marketing services used internally by grocery retailers or via partnerships are designed to facilitate such additional basket spending at check-out.[83]

- Amazon's ad platform offers one of the most sophisticated and far-reaching systems for preferential access to desired customers on and off the Amazon platform, allowing brands to *retarget* consumers. Through "Sponsored Display" campaigns, Amazon facilitates the targeting of consumers with "maximum impact and with minimal effort." Ad creatives include features such as "product image, pricing, badging, star rating, and Shop now button that links back to your product detail page, making it easy for customers to browse or buy."[84] These ads can be triggered as a consumer searches for a product, and can appear on desktop computers, mobile and video devices and in Amazon's own app. When someone clicks on the ad, explains Amazon, they "go to the product's detail page where your offer is listed." To facilitate more effective targeting of Amazon users, Sponsored Display clients can benefit from "automation and machine learning to optimize your campaigns."[85] Chip company Barcel developed its own store on Amazon to promote its Takis corn chips, enabling it to "provide a visual and engaging way for shoppers to engage with the brand." It also became a "sponsored brand." According

to Amazon, one category of the Takis chips was among "the top 10 Amazon Best Sellers for "'Corn Chips & Crisps.'"[86]

- Dash's Market's "Rosie" system offers brands a number of ways to foreground their products. "Vendors pay to initiate digital campaigns," while "retailer private label products are promoted to category captains" (where they can receive preferential treatment, including data analysis).[87]

- Hy-Vee bills itself as "the first retailer in the U.S. to partner with the Citrus Retail Media Platform," which helps increase "product sales through sponsored search and monetize digital shelf space for retailers...." Through Citrus, Hy-Vee and other retailers can generate "a new revenue stream and monetize their digital real estate" where brands can "compete in a live auction for prime product positioning and targeted banner ad placements...." Citrus says it can target customers based on their "household types," "spend level," and "purchase history," which helps deliver an increase in spending by both customers and advertisers. Citrus recently formed a strategic partnership with retail analytics firm Mi9 Retail (which also works with ShopRite and Safeway, and which has announced a partnership with the Google Cloud Platform).[88]

6. **Through the use of artificial intelligence, machine learning, and the latest insights from behavioral economics, companies have created a host of techniques for maximizing their ability to influence consumer behaviors, including fostering impulsive purchases of sugar-sweetened beverages and foods that are high in salts, fats, and sugars.** New software applications can "learn" how someone reacts to a particular ad or piece of content, and then deliver a subsequent series of ads with altered messaging specifically designed to be more appealing to the individual user, a technique sometimes called *dynamic creative*.[89] These advances help enable *predictive targeting,*

where the "best combinations of text, image, colors and more" are determined to "create and serve an ad."[90] Using sophisticated insights from behavioral science and economics, food marketers and retailers can design individually tailored appeals that create a sense of urgency or scarcity, in order to "trigger or 'nudge' consumers toward a desired behavior."[91] These individualized prompts are often integrated into e-commerce retailing platforms, where users of online grocery ordering systems can be "reminded" during the check-out process about items they should also place in their cart.

According to shopper marketing experts, the "online environment is an ideal breeding ground for impulsivity."[92] Because the interface is personalized—based on a person's previous shopping behavior and other profiling data—the prompts that are aimed at an individual consumer can be even more powerful, and potentially much more detrimental to health, especially when used to promote sugar-sweetened beverages and foods that are high in salts, fats, and sugars. Among the companies using AI and machine learning to generate these and other types of personalized online marketing are Kellogg's, Pepsi and Coca-Cola.[93]

• Working with e-commerce company Vantage, which specializes in using machine learning and artificial intelligence to help power online sales of consumer packaged goods and other products, FreshDirect uses a "Digital Co-op Advertising Platform" to "reach millions of online grocery shoppers with ads containing the right messages at the right times." In one case study for FreshDirect, Vantage helped the company roll out a campaign "using real-time shopping behavior observed on the website." A set of "custom targeted audiences" was developed where "proprietary algorithms" were applied so ads could be delivered to specific consumers "at times they were most likely to make a purchase." "Hundreds of variants" of ads were created "with just a few clicks," so FreshDirect could target shoppers more efficiently. Vantage is able to help FreshDirect

campaigns through its ability to "perform multivariate tests and optimize hundreds or even thousands of ads across multiple channels" for specific items and "in real time."[94]

7. **Retailers have instituted a number of online strategies for encouraging and enabling what they call "frictionless" shopping.** Techniques such as re-order buttons, reminders, abandoned-cart notifications, and other forms of personalized service are designed to promote a seamless experience for online shoppers.[95] Amazon's 1-click buying feature is another example of removing barriers for consumers and facilitating check-out.[96] This strategy also involves integrating social media and communications platforms with e-commerce services.

• FreshDirect partnered with MasterCard's "MasterPass" bot system, which is connected to Facebook and its "Messenger" communications application. In its April 2017 announcement, MasterCard explains that "the bots leverage artificial intelligence (AI) technologies to enable consumers to interact with the merchant brands, build their order and securely checkout via MasterPass, all without leaving the Messenger platform." Such "conversational commerce" is made "frictionless," says MasterCard, explaining that "FreshDirect now makes it easy for customers in those markets to browse, shop and purchase their groceries directly within Messenger."[97]

Companies are also producing original media content for their brands, creating videos, regularly posting on Instagram and other social media, and overseeing sophisticated ad- and data-targeting platforms. Companies are taking advantage of what is called the "Instagram Effect," using compelling images to capture "visual shoppers," and engaging so-called *influencers* to promote their products.[98] One of the latest innovations is called *shoppable content,* a feature on such popular platforms as Instagram, Pinterest, and YouTube. When a photo or other image of a brand is featured, social media users can make an instantaneous purchase without having to go
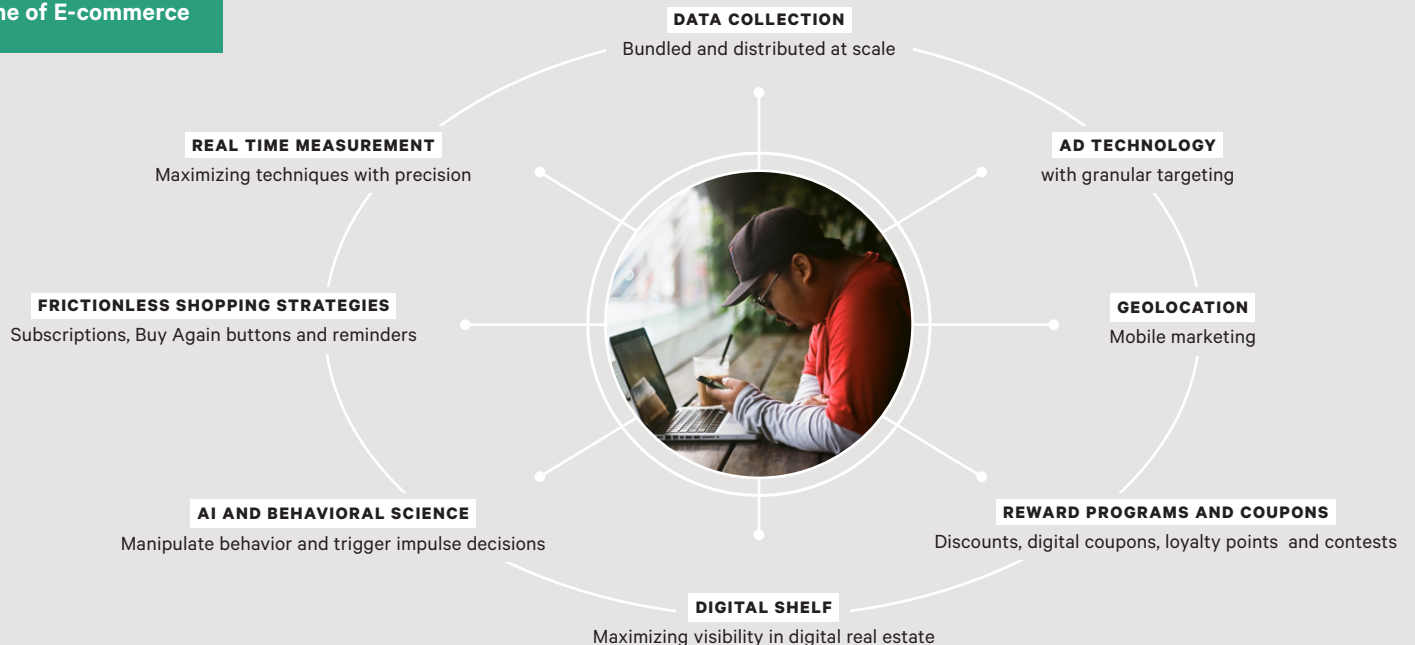
to another site. Google's "shoppable ad units are served up based on a user's browsing and search words," with product images available for the YouTube homepage, the Gmail promotion inbox and other properties. The tech giant reports that "50 percent of online shoppers said images of the product inspired them" to make a purchase.[99]

8. Through real-time measurement, grocery chains, retailers, and online shopping services can determine how a marketing campaign or e-commerce practice affected consumer purchasing behavior, enabling companies to maximize and fine tune their techniques with unprecedented precision. Among the recent advances in shopper marketing is the use of data analytics to document the impact of online advertising on actual sales.[100] Amazon, Safeway, ShopRite, and Walmart claim to be able to measure the impact of search, social, display, email, and video media channels based on how consumers discover, research, and buy products. Measurement systems provide "closed-loop" attribution of advertising to purchasing behavior, allowing Walmart, for example, to inform its advertisers that it "can accurately measure the effect of your digital campaign not just on our site and mobile apps—but in our stores."[101]

- IRI, one of Google's measurement partners, enables companies to "measure the impact of YouTube advertising on offline sales." IRI's data include a "vast point of sale, frequent shopper" and other data to determine "actual in-store sales lift impact of ad spend."[102]

- Nielsen Catalina Solutions, also a Google measurement partner, helps consumer product goods (CPG) companies measure "the in-store sales driven by CPG advertising delivered on YouTube." Facebook has an extensive system to help advertisers—such as KFC, McDonald's, Frito-Lay and Wendy's—measure the impact of their marketing, including actual purchases.[103]

Marketers using Amazon are provided with a number of "real-time measurement" and "attribution" tools that "measure the impact of search, social, display, email, and video media channels based on how consumers discover, research, and buy your products on Amazon." According to the company, its "unique conversion metrics—including Amazon detail page views, purchase rate, and sales—give you a comprehensive view into how each of your marketing tactics contribute to shopping activity on Amazon."[104]

The Engine of E-commerce

DATA COLLECTION
Bundled and distributed at scale

REAL TIME MEASUREMENT
Maximizing techniques with precision

AD TECHNOLOGY
with granular targeting

FRICTIONLESS SHOPPING STRATEGIES
Subscriptions, Buy Again buttons and reminders

GEOLOCATION
Mobile marketing

AI AND BEHAVIORAL SCIENCE
Manipulate behavior and trigger impulse decisions

REWARD PROGRAMS AND COUPONS
Discounts, digital coupons, loyalty points and contests

DIGITAL SHELF
Maximizing visibility in digital real estate

- In one case study, Amazon explained how it helped Pepsi's Quaker Oatmeal Squares Cereal deliver "custom coupon ads" that produced a "strong ROI [return on investment]." This campaign, which included the participation of measurement partner Nielsen HomeScan, helped "reveal exact groups of Amazon customers who were most likely to take action… [including] those who were in-market for other grocery products."[105] In its work to promote Planters Peanuts, Amazon assisted the company to develop "a full-funnel campaign… that reached customers at all stages of the shopping journey." It included "streaming video," a "shopable landing page where customers could buy a variety of Planters nuts," as well as "display ads on Amazon DSP and sponsored ads to reach audiences more likely to engage with Planters."[106] Hershey's promoted its Reese's and KitKat brands using Amazon's streaming video distribution system, generating valuable measurement insights on the effectiveness of the candy company's campaign.[107]

THE REAL COST OF ACCESSING ONLINE BENEFITS

Online shopping and home delivery could make food and other products more accessible for many consumers who are unable to get to stores.[108] Such access is particularly important during the current coronavirus pandemic. Digital coupons and loyalty cards could also reduce the costs of necessities, enabling consumers to buy more with their limited funds, and could be vital to their ability to make ends meet when money is very tight. Personalized services help streamline the process of shopping online, providing discounts for the brands and products that consumers use most frequently, and offering promotions for products that are tailored to individual needs. But this system also comes with a price. Never before have we seen the extent, level and nature of data collection and use that have become the engine of e-commerce, nor the explosion of intrusive, manipulative, and potentially discriminatory marketing practices that are at its core.

The rise of Big Data and the expansion of digital technologies have created a massive retail and e-commerce surveillance system, with unprecedented scope and granularity.[109] An expanding infrastructure of sophisticated data systems gives retailers, food and beverage brands, and other marketers the ability to know their customers and their behaviors in an intimate way, to anticipate their actions, and to track and follow them wherever they go—online and off. Companies can target these individuals with personalized messages—on their mobile phones, as they communicate with friends on social media, or when they are purchasing groceries for their families online.[110] Retailers are also using facial recognition technologies to identify customers' gender, age, and ethnicity, and to target them with tailored ads while they are shopping, whether in the store itself or online.[111] The loyalty cards and discount coupons that have become so vital to consumers for savings on food and other necessities are also key mechanisms used to track spending and purchasing patterns, with data funneled into the machinery of the digital retail, food and beverage industry, and e-commerce operations. The ubiquity of the surveillance and the merging of the online and physical worlds makes these practices nearly inescapable.

These changes in the retail and grocery industries have also unleashed an entirely new set of tools designed to manage, and in some cases manipulate, consumers' behaviors, foregrounding certain brands and products, "reminding" customers to make purchases, and triggering impulsive purchases based on an individual's profile and past behaviors. Sophisticated measurement software provides the industry with detailed and concrete feedback to fine tune the system and to ensure that all of these strategies and techniques are actually working to influence how customers respond. The techniques are part of a larger

set of trends within the digital economy. Technological advances in *hyper-personalized targeting,* combined with insights gained from cognitive and behavioral science, are creating particularly powerful new methods for directing user behaviors. These systems operate under the radar of people's everyday online interactions, with virtually no transparency. For example, many websites, e-commerce platforms, and mobile apps are purposefully designed with user interfaces "that benefit an online service by coercing, steering, or deceiving users into making unintended and potentially harmful decisions."[112] Such design choices, known as *dark patterns,* are increasingly woven into the very fabric of the digital experience. Norwegian researchers have found dark patterns in Google's privacy settings, which have the effect of manipulating users into turning their location-tracking history on.[113] Researchers have documented the pervasive use of dark-pattern techniques on e-commerce sites, whose interfaces are often designed to circumvent rational decision making.[114]

With e-commerce aimed at increasing "basket size," marketers draw from this expanding arsenal of digital techniques to position their most heavily advertised brands and products—typically those high in fats, salts, and sugars—at the foreground of consumers' online experiences. Researchers at the Center for Science in the Public Interest (CSPI) recently conducted an analysis of food and beverage online promotions from six retailers in the Washington, DC, area, including several of the grocery chains that we examined in this report. Despite a very small sample size, the research seems to indicate that by far, the majority of products promoted by retailers, via grocery websites, email messages, store search engines and featured price discounts, were for such unhealthy products as sugar-sweetened beverages, high-fat fast food, and sweet or salty snacks. The researchers also raised concerns about the role of personalized marketing, noting that, "from a public health perspective," the practice creates a "path dependency problem. Retailers may nudge customers repeatedly to replicate their

least-healthy purchases," which can undermine consumers' efforts to change their eating habits. "Though Americans are interested in eating healthfully, manufacturers of unhealthy products like soda, candy, and chips have greater resources to take advantage of evolving technology than do fruit and vegetable farmers."[115]

While these retail and e-commerce practices affect all consumers online, they are likely to have a disproportionate impact on SNAP participants, which include low-income communities, communities of color, the disabled, and families living in rural areas.[116] The increased reliance on these services for daily food and other household purchases could expose these consumers to extensive data collection, as well as unfair and predatory techniques, exacerbating existing disparities in racial and health equity. Research has documented that food and beverage companies already aggressively target communities of color with marketing for foods and drinks low in nutrition and high in sugars, salt and fats.[117] Low-income populations are already more at risk for rising levels of obesity and severe obesity, and additional targeting of unhealthy foods would make them especially vulnerable. This is especially true of the Latinx community, where many could be exposed to a "double dose" of targeted marketing in English and Spanish.[118] As major retailers and online e-commerce companies expand their holdings in the financial and health sectors, they will be able to create even more extensive and highly granular profiles than before. Individuals with medical conditions such as heart disease, obesity, and diabetes could confront a pervasive and intelligent apparatus that delivers personalized and aggressive marketing of prescription drugs, insurance plans, and other products, by using inferences about a consumer's medical condition. An association with higher health risks based on food and beverage purchase data might also disadvantage a SNAP participant in the employment context, as employers are increasingly relying on data-analytic tools to make personnel decisions, thereby affecting who gets interviewed, hired, or promoted.[119]

USDA'S SAFEGUARDS FAIL TO PROTECT SNAP PARTICIPANTS FROM ONLINE MARKETPLACE HARMS

The emergence of e-commerce and the changing nature of retail are taking place in an essentially unregulated environment. Unfortunately, the safeguard framework mandated by the USDA for the online purchasing program is minimal at best, and the companies' own self-regulatory policies fail to offer adequate protections.

When the USDA first announced its Online Purchasing Pilot for SNAP, the agency issued a request for retailer volunteers (RFV) to submit applications for the pilot, spelling out various requirements for any companies agreeing to participate.[120] (See Appendix 1.) However, while articulating some principles for privacy, fairness, and equal treatment, the framework reflects the weak and ineffective government and self-regulatory systems currently in place in the U.S., relying primarily on company privacy policies and the "notice and choice" model. (See Sidebar: U.S. Laws Offer Few Protections for E-commerce Customers.)

U.S. Laws Offer Few Protections for E-commerce Customers

Unlike many other countries, the United States has no comprehensive laws to regulate the digital marketplace, protect consumer privacy, or offer meaningful safeguards to address the kinds of practices we have documented in this report.[121] The basic framework for online privacy protection in the U.S., established during the earliest days of the commercialized Internet, relies on what is known as the notice and choice model. Under this system, websites, mobile operators, and other digital media companies voluntarily post privacy policies informing consumers of the nature and extent of data collection.[122] Anyone who wants to engage with an online service, however, is stuck with a "take-it-or-leave-it" proposition, required to accept the privacy policy and the company's Terms of Service (TOS) as a condition for accessing the website, online platform, or mobile device, with no room for negotiation. (The one exception is the most recent California privacy law, which took effect January 1, 2020, and offers consumers in that state more meaningful choices in the relationships with online operators.)[123] At the national level, the U.S. Federal Trade Commission (FTC) is the agency responsible for regulating the digital marketplace. However, its powers are weak. Based on its jurisdiction over "unfair and deceptive" commercial practices, it can take enforcement actions against companies that violate their own privacy policies, terms of service, or other promises to consumers.[124] But the agency lacks the statutory authority to develop, implement, and enforce broad privacy and digital marketing rules except in very specific areas where Congress has granted it explicit power to do so.[125] While there are some laws in place to protect consumers from deceptive marketing practices both online and off, their application to the contemporary techniques in online retail and digital e-commerce is very limited.[126]

Nor do self-regulatory systems offer any meaningful protections for consumers. Advertising trade groups have developed codes of voluntary conduct for digital marketers, but these guidelines have been carefully written in ways that do not challenge many of the prevailing (and problematic) business practices employed by their own members, including real-time data analysis and targeting, machine learning and predictive analytics, look-alike modeling, scoring, and loyalty programs such as e-coupons. The mechanisms that are in place for oversight and enforcement are primarily conducted by the trade groups themselves, their partners, or individual companies, with no independent accountability.[127]

A variety of U.S. laws prohibits intentional or unintentional discrimination against protected classes, including racial and ethnic minorities, women, seniors, and people with disabilities. They operate in the area of employment, credit, housing, public accommodations, public education, and the right to vote, for example. There have been calls for updating civil rights laws to make them applicable online as well.[128]

A basic tenet of the entire food-assistance program is that SNAP participants must be guaranteed "equal treatment" when compared to consumers outside of the program. Federal regulations require, for example, that SNAP benefits "shall be accepted for eligible foods at the same prices and on the same terms and conditions applicable to cash purchases of the same foods at the same store." Equally, SNAP participants "may not be given any special privileges or offers that are not available to other customers."[129] As the SNAP program moves online, the USDA has incorporated this same principle into its online purchasing pilot,

mandating that participants "must be treated according to the same policies established for all other customers, especially in the area of privacy, use of customer data," and requiring participating companies to ensure that their website employs "optimal security and privacy practices."[130] But since there are no specific e-commerce or digital marketing regulations for the general public, requiring equal treatment for SNAP participants is an insufficient policy to protect them from the full spectrum of contemporary data collection and analytics practices in use within the growing online marketplace.

PRIVACY POLICIES ARE INCOMPLETE, CONFUSING, AND DIFFICULT TO DECIPHER

As part of the research for this report, we conducted an in-depth analysis of the privacy policies of the eight companies chosen to participate in the EBT pilot program.[131] Because these documents often contain language that is obtuse, legalistic, and technical, this process required some decoding to discern what the policies do and do not reveal about company practices and the safeguards they offer to consumers. For cookies or online trackers, we also sought to test for ourselves what the data-collection practices were and to compare them with the USDA requirements. We relied on a special software tool called Ghostery to conduct a technical analysis to detect use of *third-party trackers* and data-sharing processes on the websites of the companies.[132] Third-party trackers are pieces of software embedded in websites and platforms that enable an array of outside entities, including marketing companies, to capture and use information from a consumer.[133]

We were interested in determining not only how well the policies adhered to the USDA requirements, but also whether they measured up to other prevailing standards that have become widely accepted within the digital and

technology industries.[134] These include the industry's own voluntary codes, as well as the longstanding, international Fair Information Practice Principles (FIPPs), a framework that has guided policy making, as well as government and industry data practices, around the world.[135] Among the key principles are three that are particularly central: The concept of *data minimization* means that there should be limits on the kinds and amounts of information an organization, government, or company can collect from an individual, as well as limits on the amount of data or data elements that can be used and shared. Closely connected to this notion are the allied principles of *use limitation* and *purpose specification,* which together mean that personal data collected from individuals should be limited and used only in ways that are consistent with the reason for collecting that information in the first place.

Below, we present the key themes that emerged from our analysis of privacy policies from the eight companies chosen to participate in the online purchasing program. (More detailed information on the individual privacy policies can be found in Appendix 2.)

Privacy policy disclosures are neither transparent nor "optimal," and consequently of little use to consumers. According to USDA requirements, a participating company's privacy policy "should describe exactly how the website itself will or will not use information about individual customers, and with whom the data is and is not shared." The agency does not specifically define, however, the "optimal" privacy practices that retailers should employ. We found, in fact, that these eight retailers, relying on their existing privacy disclosures, have policies that are less than clear. Instead, they tend to be exercises in purposeful obfuscation. Most companies offer reassuring language that frames their data practices as only in the best interests of their customers. For example, Amazon explains that "the information we learn from customers helps us personalize and continually improve your Amazon experience." FreshDirect affirms that "...we recognize and respect the importance of maintaining the privacy of our customers." At Walmart, "customers are number one."[136] Safeway has long lists of purported benefits to those who sign up for its online ordering service, including, for example, "providing you with newsletters, articles, product or service alerts, new product or service announcements, savings awards, event invitations, and other information."[137]

However, the same policies too often obscure what those practices actually are, presenting their data operations in the most positive and beneficial terms, while diverting attention away from any possible risks or harms. Language tends to be particularly permissive and vague when it comes to data uses, which are rarely described specifically. When they are disclosed, they are often ranked in such a way as to foreground the most benign uses with no mention of any associated risks. For example, Safeway lists "responding to your requests" and "processing and completing your transaction" first, followed further on by "providing you with personally tailored coupons, programs, promotional information, offers, content, and ads," and "preventing, investigating, or providing notice of fraud, unlawful or criminal activity." A customer reading this list would have no way of knowing that "personally tailored offers" can also lead to various forms of manipulation, or that overly aggressive or ill-managed "investigations" can lead to exclusion and denial of services.[138] None of the privacy policies addresses the use of data to draw inferences, create profiles, target some individuals, or exclude others. Some companies give themselves *carte blanche* when it comes to how they will use personal information collected from their customers. For example, Hy-Vee's privacy policy, after listing a number of data uses, ends with a legalistic, catch-all phrase: "The foregoing list is not exclusive or exhaustive."[139]

Such terminology is emblematic of the way the pilot companies' operations fly in the face of longstanding privacy principles designed to limit the collection and use of personal information from individuals. Some privacy policies suggest an excessive amount of across-the-board data collection and analysis that goes well beyond the "collection limitation," "purpose specification," and "use limitation" standards in the Fair Information Privacy Practices Principles (FIPPs).[140] FreshDirect, Amazon, and ShopRite, for example, collect social network data, while Safeway, ShopRite, and Walmart collect demographic information from third parties. The Rosie's privacy policy for Dash's Market collects date of birth and household size at sign-up. Walmart mentions the collection of data via Wi-Fi/Bluetooth and cameras in its stores, to cite only a few examples. Most companies also obtain data from third parties, but remain vague on the necessity, purpose or nature of this data collection. For example, Mi9 Retail, which serves ShopRite and other grocers, collects personal and other information, including "data provided by third-party sources, such as marketing opt-in lists, or data aggregators."[141]

Finally, all of the privacy policies are invariably long, densely worded documents, making it nearly impossible to understand or evaluate them. And since USDA did not insist on a consistent, standardized approach across companies, the documents are sprinkled willy-nilly with disclosures, which are presented without any particular structure or coherence. Amazon, for example, has no specific section on data uses; rather, it provides a general statement that data are used to personalize and improve the customer experience.[142]

In sum, the privacy policies we analyzed during our research period do not meet USDA's requirements. They do not come close to describing "exactly" how the companies "will or will not use information about individual customers, and with whom the data is and is not shared." Though these policies may *technically* adhere to the USDA's privacy requirements, the fact is that any SNAP participant who wants to take advantage of the services in the new online purchasing program has no real choice. Just by signing up to get access to online products, receive coupons for discounts, or take advantage of home delivery, customers subject themselves to massive, ongoing data collection, and personalized targeting. Faced with the daunting, time consuming, and nearly impossible task of reading and deciphering a company's privacy policy, most customers will simply resign themselves to agreeing to the terms.[143] In addition, many privacy policies—including those from a number of participating pilot merchants—are only available in English, creating another obstacle for consumers who prefer Spanish or another language.

The online merchants chosen to participate do not provide adequate choices for enabling consumers to control how their data can be used for marketing. USDA stipulates that merchants must enable consumers to "opt-out" of receiving "internal" marketing-related materials. All pilot participants provide an opt-out for email marketing, in accordance with this requirement. However, having a safeguard only for how marketing can occur by email overlooks the

myriad ways retailers can use data to target a customer online. For example, they can use someone's personal information to personalize an ad, and create individualized offers, content and "site experiences" that cannot be avoided, but are clearly used for marketing purposes. Except for Hy-Vee Inc., all the participating retailers state that their websites use personal customer data to tailor their content, communications, and ads.[144]

Although participating retailers collect and use highly sensitive geolocation data, the disclosures to consumers and use limitations are inadequate. The collection and use of geolocation data have become a central part of the digital marketing ecosystem. For online retailers and e-commerce platforms, mobile and geolocation data are at the heart of many of their operations, a key strategy for reaching and engaging customers, targeting them with location-based ads and conducting sales transactions. This type of information is also inherently sensitive and can be used as a proxy for many socio-economic indicators, such as income and race or ethnicity, or to redline and geo-target or geo-exclude particular consumers. However, while other types of sensitive data (such as health and financial) are often subject to regulation, geolocation data remains largely unregulated.[145] Neither is geolocation specifically addressed in the USDA framework for its pilot companies, nor listed among sensitive data.

When we assessed whether the companies' privacy policies included disclosures about collection and use of real-time geolocation data, only five of the eight mentioned it.[146] And the information they provided was vague, indicating only that they *may* collect geolocation data. The policies generally fail to highlight the most sensitive data uses or the risks to consumers. The other three, Dash's Market/Rosieapp.com, Hy-Vee Inc., and Wright's Market, make no references to geolocation data collection at all, even though their own promotional materials, as well as industry trade publications, widely acknowledge their involvement in mobile marketing and geotargeting operations.

Companies routinely share extensive personal information from their customers with "partners," "affiliates," and other types of vaguely defined "third parties," while offering few, if any, opportunities for individuals to "opt-in" for such sharing, as required by USDA. Most privacy policies fail to clarify the companies' complex third-party relationships, which are either inconsistently defined or not defined at all. Terms such as "service providers," "affiliated business," or "partners" are unclear. Data sharing can occur with such outside entities or within a company's own set of divisions or subsidiaries. The relationships and impact of such sharing between and among internal and outside parties is, we believe, purposefully unclear—despite the privacy risks. For example, according to Amazon, "affiliated businesses" are companies that it does not control. For Hy-Vee, it appears that these are subsidiaries under the same corporate roof. Safeway can share data collected on its site across at least 21 of its companies, as it may share "... your personal information with our parent or affiliated companies for their use in a manner similar to the purposes described...." Walmart also says it can share a person's data "within our corporate family of companies, such as with Sam's Club, Moosejaw.com or Hayneedle. com."[147] And, FreshDirect clearly violates USDA requirements as it does not provide an opt-in, even though it does share data with third parties other than for fulfillment.

Significantly, USDA does not address the most common and pernicious sharing of data about consumer behavior online, the practice of tracking consumers' behavior and movements across and within websites. USDA is silent on the sharing of data among a complex web of platforms, publishers, advertisers, and third-party advertising technology *(adtech)* operators. Like other e-commerce operators, SNAP e-commerce providers allow outside parties to embed "trackers" on their webpages, which enable them to stealthily gather information about a person's activities. Most of the company policies stipulate that they are not responsible for the privacy practices of such third-party trackers.

For example, Amazon, Albertsons (Safeway), and ShopRite state that they do not control data collection and use by third-party trackers.[148] We used the Ghostery browser tool to assess the number and role of third-party advertising trackers operating on each SNAP pilot retailer website, and to measure the extent of their activities. Among the eight companies that we examined, FreshDirect had the most tracker counts on their home pages (with 17), followed by Amazon (14), Walmart (11), and Safeway/ Albertsons (8).[149] All of the websites in our study attempted to share "unsafe" personal data. Data are considered "unsafe" by Ghostery when the data "have the potential to identify uniquely an individual user," such as a unique ID or device fingerprint.[150] FreshDirect, Amazon, Walmart, and Safeway/Albertsons stood out with more than 10 requests each on their home pages. In other words, for these three SNAP retailers the Ghostery tool identified more than 10 occasions in which "unsafe," or personal, data, were about to be transferred to a third party.[151] But no opt-in for this type of sharing was provided as stipulated by USDA, and, in fact, five of the sites provide no link to the industry-standard Network Advertising Initiative ad tracker opt-out page in their privacy policies.[152]

Three of the eight companies at least admit that they share data when customers click through an ad.[153] This could mean, for example, that fast-food and beverage marketers can use their relationships with Walmart and other participating retailers to learn which consumers fit the target profiles for their brands, as well as how effective their ad campaigns are in triggering purchases. However, consumers have no way to avoid sharing their data when they click on a targeted ad shown on a pilot company's website.[154]

After reviewing the information contained in the privacy policies of the eight companies chosen to participate in the online purchasing pilot program, it is clear to us that they do little to inform customers of their actual operations, and offer only minimal safeguards. In some

cases, the companies do not even adhere to the requirements contained in the USDA's weak framework. Advocates, regulators and scholars have warned for some time that online privacy policies are often opaque and misleading, and provide a false sense of security.[155] As legal scholar Katherine Kemp explains, too often companies use their privacy policies "as a marketing opportunity to manipulate, confuse and overwhelm consumers into acceding to their data practices, rather than to inform."[156] This approach is entirely inappropriate, given the seriousness of the issue and the risks to individuals. Privacy policies should be tools to inform consumers, rather than to persuade or manipulate them.[157]

There is a growing awareness among policy makers, academics, and advocates that the entire "notice-and-choice" model, sometimes called *privacy self-management,* is deeply flawed. Data tracking of consumers has become ubiquitous and largely inescapable; data collection and processing are mostly opaque, taking place in hidden ways; and most privacy disclosures are written in language that is too complex for consumers to understand.[158] Sole reliance on consent mechanisms are misleading, too, when profiles and inferences are based on data that are derived from groups of individuals, or when they are based on aggregated or "anonymized" data.[159] Privacy self-management regimes like to suggest that risks or harms are individualized and should best be managed individually, when, in fact, a significant portion of the risk and harms pertains to groups and society at large, and thus must be managed at that level. The significant imbalance of power between online consumers and digital corporations has further undermined consumer safeguards, resulting in manipulation and a lack of transparency and accountability. E-commerce practices that use information technology to impose hidden influences on individuals by targeting and exploiting their vulnerabilities further undermine notions of "control" and individual choice.[160]

BIG DATA'S IMPACT ON COMMUNITIES OF COLOR AND LOW-INCOME GROUPS

Many of the issues surrounding the new SNAP online purchasing program are a microcosm of a much larger set of concerns raised by the growth of Big Data and its impact on social and economic equality in American society. The rise of powerful digital marketing and advertising companies, such as Google, Facebook, and Amazon; the explosive growth of the technology sector; and the expansion of predictive analytics have all placed a premium on amassing behavioral and transaction-generated data. A growing body of academic research has documented how these systems can lead to disparate impacts on communities of color, low-income groups, and other vulnerable members of the population.[161] For example, studies have shown that some algorithmic decision making may disproportionately impact members of already disadvantaged groups.[162] Predictive analytics and personalization enable marketers to treat individuals or groups of consumers differently, which can result in various forms of marketplace discrimination.[163] "Discrimination by association" has become commonplace in the online advertising industry, where people are grouped according to their assumed interests or inferred traits and offered or excluded from different products, services, or prices on the basis of their presumed affinity.[164] Researchers who studied Facebook's advertising systems found that even when housing and employment ads were deliberately placed to avoid any form of discriminatory targeting based on race or gender, the platform's ad-delivery optimization engine "skewed" the delivery of those ads along race and gender lines anyway.[165] A number of studies have documented similar patterns not only in housing and employment, but also in lending and retail pricing.[166]

How Segmentation and Sorting May Contribute to Inequities

Step 1 Consumers may already be segregated geographically due to historic discrimination such as redlining; consumption patterns are shaped by economic conditions and other inequities, for example, consumers in poor neighborhoods may have no access to healthy food options, which limits purchase opportunities.

Step 2 As consumers come online, they are classified based on many data points, including their own past consumption patterns and patterns from people "like" them. Algorithms group consumers into segments, i.e. into groups of consumers that share characteristics.

Step 3 Segments are further sorted, i.e. ranked into more or less "lucrative" marketing targets, making some segments more likely to become targets for advertising campaigns, while others are more likely excluded from these campaigns.

Step 4 Advertising exposure is likely to lead to consumption habits which reinforce the cycle of targeting/exclusion.

Step 5 Back to Step 2.
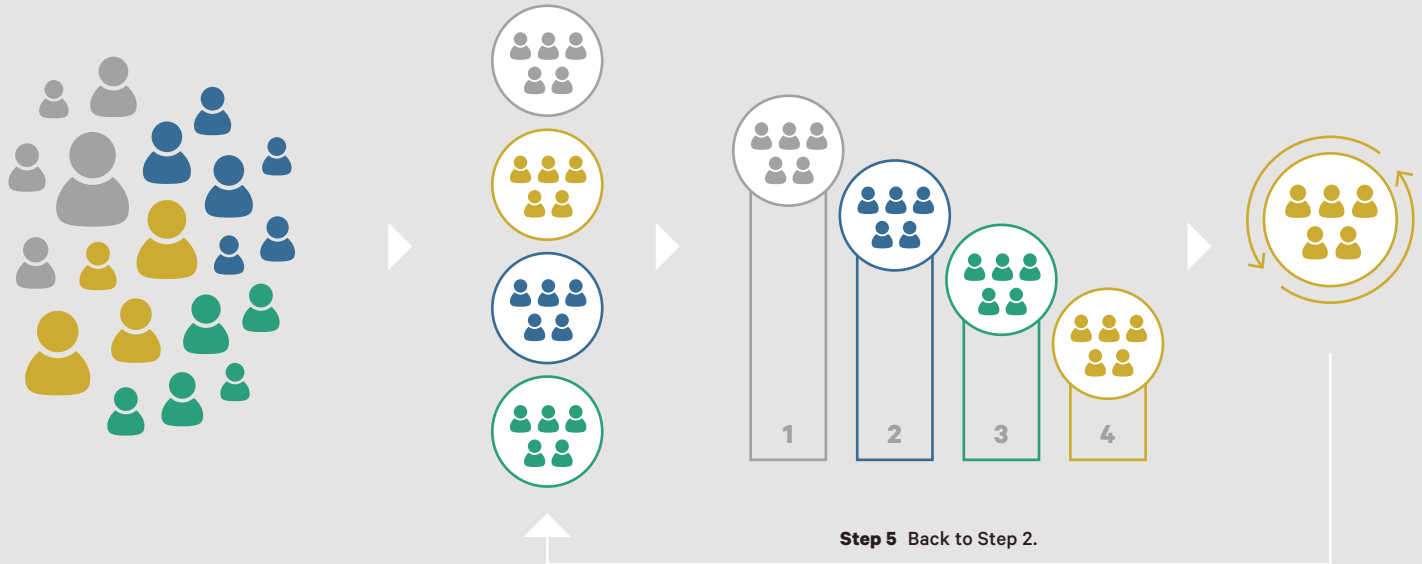
As an increasing number of companies use digital tools to collect an unending stream of data about consumer purchases, location, preferences, behaviors and more, these data often reflect historical racial inequities. Jim Crow laws such as redlining, for example, have kept people of color out of certain neighborhoods and limited their access to such essential needs as affordable housing, education, jobs, health care services, and fresh foods.[167] These disparities, in turn, can affect purchasing patterns, since where people live—and the products made available to them there—influence what people buy. The data are used to artificially construct segments or groups of online consumers and to classify and sort them according to the marketers' logic. In general, once a population segment has shown a preference for a product, marketers then use purchasing data to prioritize targeting that segments these groups, or to create another group of consumers with the same characteristics through "look alike" modeling. The targeting

of these segments can be very personalized, but nevertheless the construction of "types," or segments, of consumers means that consumers cannot escape a shared group treatment, which may lead, in turn, to cumulative disadvantage, and may exacerbate societal inequities.[168]

With federal and state assistance programs such as SNAP moving many of their services online, it will be important to ensure that these systems do not replicate, or further exacerbate, existing patterns of discrimination and disparate impact. As scholar Virginia Eubanks has explained, government assistance programs themselves use automated decision-making, classification, and predictive algorithms for delivery of social services, often relying on private-sector contractors to administer the programs. In her book, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*, Eubanks describes how poor and working-class people can be subjected to data analytics

programs that classify them as "problematic parents" or "fraud risks." These individuals can be targeted and/or excluded according to biased automated eligibility systems, subjected to surveillance by social service agencies and law-enforcement, and effectively relegated to the "digital poorhouse." Many government agencies that are turning to private-sector contractors to deliver social services, explains Eubanks, often lack the resources and expertise to monitor the operations of the companies delivering the services, or to identify discriminatory impacts and other negative consequences.[169]

These findings are echoed by members of low-income populations and marginalized communities of color themselves, who have described to researchers their experiences of "being forced to engage with intrusive and unsecure data-driven systems because of their membership in groups that have historically faced exploitation, discrimination, predation, and other forms of structural violence."[170] As a consequence, many of these individuals have developed a deep distrust of both governmental and commercial data systems. Yet most feel they have little choice but to rely on these data-driven services for their basic needs. At the same time, these communities often demonstrate remarkable resilience, developing strategies of self-defense and survival.[171]

PROTECTING SNAP PARTICIPANTS IN THE PANDEMIC AND BEYOND

SNAP participants should be able to take full advantage of the digital economy, enjoying the benefits of cost savings and efficiency, and expanding their access to a wider range of foods and other products. However, the flawed USDA safeguards—combined with the sophisticated e-commerce systems deployed by retailers and brands—could place those individuals and their families at considerable additional risk. Participating in the program would force them to agree to commercial privacy policies that enable extensive data collection, tracking, targeting, and manipulation. It is also unclear whether the new online ordering program will be able to deliver on its promise to increase purchases of fresh produce and other healthy foods, especially in an e-commerce marketplace that foregrounds and aggressively promotes processed foods that are high in fats, salts, and sugars.

Even before the current Covid-19 pandemic, nearly 40 million people—one in eight Americans—were already living below the poverty line.[172] Government assistance programs such as SNAP remain the thin thread that helps them survive. In December 2019, as growing concerns over the coronavirus in China were just beginning to surface in U.S. media, the USDA announced a new policy that tightened work requirements for SNAP participants, and threatened the removal of nearly 700,000 people from participation.[173] In January 2020, 14 states, along with the District of Columbia and New York City, filed a suit in a DC federal court to block the implementation of the new rule, arguing that it "eliminates State discretion and criteria" and will terminate "essential food assistance for benefits recipients who live in areas with insufficient jobs."[174] With the March 2020 passage of the Families First Coronavirus Response Act, those restrictions were temporarily removed, and efforts are underway to incorporate provisions for improving and enhancing the government's food-assistance programs into subsequent legislation aimed at addressing the impact of the pandemic on Americans.[175] In response to the health and economic crisis, a number of states have asked the USDA to allow their SNAP participants to use their electronic debit cards to order food online, and to pay for home delivery.[176] Undoubtedly,

expansion of the SNAP online purchasing program will continue to accelerate as state and federal officials seek ways to address the ongoing spread of Covid-19 and its impact low-income communities. This creates a critical and urgent window of opportunity for intervention to ensure that SNAP's digital transition will maximize the benefits to low-income families and others who most need this assistance, without exposing them to practices that could threaten their privacy, undermine their health, and deepen the existing inequities they experience.

The USDA should take a much more proactive role in developing meaningful and effective safeguards for the new online purchasing system, grounding its framework in an understanding of the contemporary e-commerce, retail, and digital marketplace. This should be part of the overall federal response to the current health emergency, ensuring SNAP participants can act to protect themselves, their families and community by remaining safely at home, and practicing other forms of social distancing.

As the USDA rolls out the SNAP online purchasing program, the agency should work with state officials and industry groups, as well as with representatives from the consumer, privacy, civil rights, public health, food security, and academic communities, to develop a framework of principles, best practices, and policies for the program. SNAP participants should also have a voice in these deliberations. The framework should extend beyond the current pilot requirements, addressing the issues we have identified in this report, along with those documented by public health organizations.[177] **The goals of this new framework should be to ensure fair and transparent data collection and use; curtail manipulative and unfair marketing and promotion practices; provide consumers with meaningful privacy rights; minimize disparate impacts of Big Data e-commerce practices; and foster healthy eating.[178]**

We propose the following as building blocks for this framework:

- A granular set of privacy safeguards should be put in place for limiting not only what kinds of data can be collected from individuals and their families, but also how that information can be used.[179] A SNAP participant who orders groceries online from one merchant, for example, should not have to fear that the information she shared will be used by another company to target her with predatory marketing for a payday loan or other similar product.

- Retailers, e-commerce platforms, and food companies should not be allowed to use techniques that take advantage of consumers' psychological vulnerabilities, or employ manipulative practices designed to foster impulsive behavior.[180]

- The privacy policies of e-commerce and retail companies participating in the program must be improved substantially, including transparency and accountability around algorithmic decision-making. Rather than allowing each merchant to develop its own privacy policy, the USDA should require a uniform format, mandate clarity of language, and articulate specific privacy and consumer risks. Privacy policies should be accessible in Spanish and other languages commonly used by a store's shoppers.

- Companies should be required to conduct ongoing impact assessments of high-risk data practices with regard to the marketing of unhealthy foods and beverages, especially as they may result in disproportionate harm to already disadvantaged populations, such as people of color, low-income communities, the elderly, and disabled. Acceptable impact thresholds should be set and mitigation strategies required.[181]

- The USDA should follow the suggestions from the Center for Science in the Public Interest, which include encouraging participating retailers to prioritize healthier products in their promotion efforts.[182]

- The USDA should facilitate the participation of smaller and independent retailers, in order to help create a more level playing field as they compete with the large platforms offered by Amazon, Walmart and the major grocery chains. To enable greater access to healthier foods, online ordering for SNAP participants should also be extended to include farmers markets and other local produce suppliers.

In addition to developing a new framework of safeguards, the USDA should build into its merchant-approval process a much stronger and ongoing oversight and enforcement mechanism. Participating retailers should regularly undergo audits of their digital marketing and data practices by an independent, outside entity, and these reports should be made available to the public. Companies that do not comply with the USDA requirements should be suspended from the program.

The agency should also revisit how it interprets its statutory obligation to ensure that all SNAP participants receive treatment equal to non-SNAP participants.[183] This requirement should not mean that the same rules apply to all regardless of the circumstances and impact. While SNAP participants should be afforded at least the same level of protection as other consumers, the premise that all consumers are equally impacted and equally affected by data collection, analytics, and targeting practices has become outdated. Therefore, the USDA should conduct a formal assessment of the disparate impacts of its privacy and marketing requirements and participating company practices on various populations, and make corrections where necessary to achieve more equitable and just outcomes.

Other government bodies and stakeholder organizations can do more to ensure that SNAP participants receive a full set of benefits and protections when they use the online purchasing program. For example, as states seek to expand their food assistance programs to accommodate online ordering, we urge them to enact privacy and consumer protection legislation that specifically addresses the e-commerce practices described in this report.[184] Academics and other scholars should conduct studies of retail and grocery e-commerce platforms, marketing strategies and data practices and how they are impacting SNAP participants, and generally people of color, people with low income, and other at-risk populations. The Federal Trade Commission should conduct its own study of the retail and grocery industry's online marketing practices, including the collection and use of consumer data.[185] Congress should hold oversight hearings on the online purchasing program and ask the Government Accountability Office to conduct its own review, with special attention to assessing the impacts of e-commerce and online retail practices on the populations served by SNAP. If needed, further legislation should be enacted to address inequities, discriminatory practices, or other negative outcomes as the food-assistance program continues to expand its services onto digital platforms.

Finally, the privacy, consumer-protection, and discrimination issues raised by the SNAP online purchasing program underscore the need for more comprehensive national laws to address the role of digital technologies in the lives of all Americans. Over more than three decades, consumer advocates, privacy groups, and others have **called on Congress to pass baseline federal privacy legislation**, with very little traction in Washington. However, in the last two years there has been a shift in the public debate over the data and marketing practices of major social media platforms and technology companies, along with a growing consensus that the U.S.

is lagging behind other developed democracies in curtailing the impact of surveillance technologies.[186] Thanks to the leadership of civil rights organizations, much progress has been made to place anti-discrimination protections at the center of many federal privacy proposals.[187] Big data equity and fairness safeguards must be included, based on an understanding of how today's data practices can lead to inequitable distribution of risks that impair life chances.[188]

The privacy, consumer-protection, and discrimination issues raised by the SNAP online purchasing program underscore the need for more comprehensive national laws to address the role of digital technologies in the lives of all Americans. Over more than three decades, consumer advocates, privacy groups, and others have called on Congress to pass baseline federal privacy legislation, with very little traction in Washington.

In the midst of a health and economic crisis that could plunge even greater numbers of Americans into poverty, advocates are redoubling their efforts to restore, protect, and strengthen the nation's critical food assistance safety net to ensure that benefits are available to anyone who needs them. We hope these organizations will also call for a comprehensive and robust set of safeguards in the new online ordering program. Policies established now to protect SNAP participants in the digital marketplace will help lay the groundwork for a broader set of protections that will ensure health, safety, privacy, and equity for all U.S. consumers as they become increasingly dependent on e-commerce and online retail services in the coming years.

Endnotes

1   U.S. Department of Agriculture, "USDA Launches SNAP Online Purchasing Pilot," 18 Apr.2019, https://www.usda.gov/media/press-releases/2019/04/18/usda-launches-snap-online-purchasing-pilot; U.S. Department of Agriculture, "FNS Launches the Online Purchasing Pilot," 29 Jan. 2020, https://www.fns.usda.gov/snap/online-purchasing-pilot. Both Amazon and Walmart provide for SNAP online ordering in each of the states approved so far (Alabama, Iowa, Nebraska, New York, Oregon and Washington). Wright's Market is providing this service to its customers in Alabama; ShopRite for New York. Eric J. Brandt, "Expand Online Grocery Ordering and Delivery to Those Who Could Benefit the Most," The Hill, 23 Mar. 2020, https://thehill.com/blogs/congress-blog/politics/488957-expand-online-grocery-ordering-and-delivery-to-those-who-could; Joe Galli, "State Not Allowing EBT to be Used for Curbside Pickup," News4SA, 30 Mar. 2020, https://news4sanantonio.com/news/local/man-fighting-cancer-wants-to-be-able-to-use-ebt-to-get-groceries-curbside-at-h-e-b.

2   State of Childhood Obesity, "Supplemental Nutrition Assistance Program (SNAP)," https://stateofchildhoodobesity.org/policy/snap/.

3   Center on Budget and Policy Priorities, "Policy Basics: The Supplemental Nutrition Assistance Program (SNAP)," 25 June 2019, https://www.cbpp.org/research/food-assistance/policy-basics-the-supplemental-nutrition-assistance-program-snap; U.S. Department of Agriculture, "The Many Reasons USDA is Celebrating 50 Years of SNAP," 21 Feb. 2017, https://www.usda.gov/media/blog/2014/11/20/many-reasons-usda-celebrating-50-years-snap.

4   U.S. Department of Agriculture, "Characteristics of Supplemental Nutrition Assistance Program Households: Fiscal Year 2018," Nov. 2019, https://fns-prod.azureedge.net/sites/default/files/resource-files/Characteristics2018.pdf.

5   Center on Budget and Policy Priorities, "Chart Book: SNAP Helps Struggling Families Put Food on the Table,"7 Nov. 2019, https://www.cbpp.org/research/food-assistance/chart-book-snap-helps-struggling-families-put-food-on-the-table.

6   James Melton, "Coronavirus is Changing Shoppers' Relationship with Grocery Retailers," Digital Commerce 360, 19 Mar. 2020, https://www.digitalcommerce360.com/2020/03/19/coronavirus-is-changing-shoppers-relationship-with-grocery-retailers/.

7   They can also compare prices of individual items across numerous retailers, in order to get the best deal. Or they can choose to order online and later pick up their purchase at the store (known as "BOPUS"—buy online, pick up in store). In 2018, BOPUS "nearly doubled among leading U.S. grocery retailers. Curbside grocery pickup was predicted to $35 billion business in the U.S." Blake Droesch, "US Retailers Are Going Big on BOPUS," eMarketer, 8 Apr. 2019, https://www.emarketer.com/content/us-retailers-are-going-big-on-bopus.

8   U.S. Department of Agriculture, "Healthful Foods Could Be Just a Click Away: FNS Works to Bring Online Shopping to SNAP Purchases," 21 Feb. 2017, https://www.usda.gov/media/blog/2016/08/02/healthful-foods-could-be-just-click-away-fns-works-bring-online-shopping-snap.

9   Judith Bell and Marion Standish, "Building Healthy Communities Through Equitable Food Access," Community Development Investment Review 5, n.3 (2009), pp. 75-87, http://www.frbsf.org/community-development/files/bell_standish.pdf. There is some uncertainty about how well the EBT program will be able to serve SNAP participants in food deserts, particularly those located in rural areas, where grocery delivery services are scarce. A recent study by researchers at Yale University analyzed government data for both urban and rural areas of the country, determining that lack of grocery delivery services in rural areas will likely mean that the pilot program will not be able to help SNAP recipients in these communities. Eric J. Brandt, David M. Silvestri, Jerold R. Mande, et al, "Availability of Grocery Delivery to Food Deserts in States Participating in the Online Purchase Pilot," JAMA Network Open 2, n. 12 (2019), https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2756107.

10   National Collaborative on Childhood Obesity Research, "NEW: Robert Wood Johnson Foundation Releases First-Ever 'State of Childhood Obesity' Report," 24 Oct. 2019, https://www.nccor.org/2019/10/24/new-robert-wood-johnson-foundation-releases-first-ever-state-of-childhood-obesity-report/.

11   Centers for Disease Control and Prevention, "Adult Obesity Facts," https://www.cdc.gov/obesity/data/adult.html.

12   Ruth Petersen, Liping Pan, and Heidi M. Blanck, "Racial and Ethnic Disparities in Adult Obesity in the United States: CDC's Tracking to Inform State and Local Action," Preventing Chronic Disease 16 (2019), DOI: http://dx.doi.org/10.5888/pcd16.180579.

13   Centers for Disease Control and Prevention, "Childhood Obesity Facts," https://www.cdc.gov/obesity/data/childhood.html.

14   WHO, "Obesity and Overweight,"16 Feb. 2018, https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight; https://www.heart.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_461345.pdf; V.I. Kraak, J.A. Gootman, and J.M McGinnis, Food Marketing to Children and Youth: Threat or Opportunity? (Washington, DC: National Academies Press, 2006.

15 Jane E. Brody, "Half of Us Face Obesity, Dire Projections Show," *New York Times*, 10 Feb. 2020, https://www.nytimes.com/2020/02/10/well/live/half-of-us-face-obesity-dire-projections-show.html?referringSource=articleShare.

16 Zachary J. Ward, Sara N. Bleich, Angie L. Cradock, Jessica L. Barrett, Catherine M. Giles, Chasmine Flax, Michael W. Long, and Steven L. Gortmaker, "Projected U.S. State-Level Prevalence of Adult Obesity and Severe Obesity," *New England Journal of Medicine* 381 (19 Dec. 2019): 2440-2450, DOI: 10.1056/NEJMsa1909301.

17 Building on CDD's ongoing analysis of the commercial digital marketplace, we have drawn from a variety of industry materials for our investigation, including publications by the retailers themselves, trade articles, reports, and online publications by ecommerce companies, shopping technology specialists, data partners, and others. We have also closely analyzed the privacy policies of the eight participating companies, assessing how well they disclose their data and marketing practices, what protections they provide to their consumers, and how they measure up to USDA requirements, as well as broader privacy and consumer-protection standards. As part of this process, we used tracking software to determine when and how these companies share data with third parties.

18 Sarah Perez, "Walmart's US e-commerce Sales up 43% in Q4, Thanks to Growing Online Grocery Business," Tech Crunch, 19 Feb. 2019, https://techcrunch.com/2019/02/19/walmarts-u-s-e-commerce-sales-up-43-in-q4-thanks-to-growing-online-grocery-business/; Kim Souza, "The Supply Side: Walmart Exec Shares Insights from Online Grocery Business," Talk Business & Politics, 23 Nov. 2019, https://talkbusiness.net/2019/11/the-supply-side-walmart-exec-shares-insights-from-online-grocery-business/.

19 Andrew Lipsman, "Grocery Ecommerce 2019: Online Food and Beverage Sales Reach Inflection Point," eMarketer, 8 Apr. 2018, https://www.emarketer.com/content/grocery-ecommerce-2019.

20 Giselle Abramovich, "How COVID-19 is Impacting Online Shopping Behavior," Adobe Blog, 26 Mar. 2020, https://theblog.adobe.com/how-covid-19-is-impacting-online-shopping-behavior/; Jasmine Enberg, "COVID-19 Concerns May Boost Ecommerce as Consumers Avoid Stores," eMarketer, 10 Mar. 2020; https://www.emarketer.com/content/coronavirus-covid19-boost-ecommerce-stores-amazon-retail; Nielsen, "COVID-19: The Unexpected Catalyst for Tech Adoption," 16 Mar. 2020, https://www.nielsen.com/us/en/insights/article/2020/covid-19-the-unexpected-catalyst-for-tech-adoption/.

21 There is also a vast landscape of specialized companies that provide retailers, as well as those who sell products, with technical tools and strategies to effectively market products online. See Institute for Consumer Goods Technology, "Who's Who in Digital Shopper Marketing," CGT, 1 Aug. 2019, https://consumergoods.com/whos-who-shopper-marketing-2019; Katie Deighton, "PepsiCo is Building an In-house Media and Data Team to Shape its Adtech Agenda," The Drum, 14 may 2019, https://www.thedrum.com/news/2019/05/14/pepsico-building-house-media-and-data-team-shape-its-adtech-agenda ; Geometry Global, "Connected Shopper," http://connectedshopper.geometry.com/; Tinuiti, "Amazon & Marketplaces," https://tinuiti.com/what-we-do/our-services/marketplaces-amazon/.

22 Nielsen, "From Consumers To Creators: The Digital Lives Of Black Consumers," 13 Sept. 2018, https://www.nielsen.com/us/en/insights/report/2018/from-consumers-to-creators/#; "In-Culture Marketing: Driving Brand Growth," presentation by Magna, NBCUniversal Hispanic and Univision, 16 Feb. 2018, personal copy, https://magnaglobal.com/context-language-targeting-double-purchase-intent-among-hispanics-according-comprehensive-study-univision-magna-ipg-media-lab/.

23 IRI, "IRI Hispanic Insights Advantage™: Use Hispanic Shopper Trends to Capture New Growth Opportunities." https://www.iriworldwide.com/en-US/Solutions/IRI-Hispanic-Insights-Advantage%E2%84%A2. Working with the Geoscape division of data company Claritas, IRI also offers "Acculturation Audiences," which helps CPG and other companies to use digital to "target U.S. Hispanic and Asian households based on their level of acculturation and past purchase behavior at a level of scale and accuracy not historically available." This includes information that reflects "verified household CPG purchase behavior across major product categories." "IRI and Claritas Launch Multicultural Audience Solution for Brands to Connect with Hispanic and Asian Communities," 27 Nov. 2018, https://www.iriworldwide.com/en-US/News/Press-Releases/IRI-and-Claritas-Launch-Multicultural-Audience-Sol.

24 AIMM, "AIMM Member Companies," https://www.anaaimm.net/membership/member-companies.

25 eMarketer, "Top 5 Companies Ranked by US Net Digital Ad Revenue Share, 2018 & 2019," https://www.emarketer.com/chart/226372/top-5-companies-ranked-by-us-net-digital-ad-revenue-share-2018-2019-of-total-digital-ad-spending; Nicole Perrin, "Amazon Advertising 2019:Growth and Performance Are Strong at the No. 3 US Digital Ad Seller," eMarketer, 7 Nov. 2019, https://www.emarketer.com/content/amazon-advertising-2019.

26 George Anderson, "Why is Amazon Trying to Convince CPG Giants to Go Consumer Direct?" RetailWire, 31 Mar. 2017, http://www.retailwire.com/discussion/why-is-amazon-trying-to-convince-cpg-giants-to-go-consumer-direct/; Aliza Freud, "Amazon: CPG Friend Or Foe?" Media Post, 9 Jan. 2017, https://www.mediapost.com/publications/article/292456/amazon-cpg-friend-or-foe.html; Laura Northrup, "Amazon Wants Frustration-Free Packaging For Cereal, Cookies," Consumerist, 30 Mar. 2017, https://consumerist.com/2017/03/30/amazon-wants-frustration-free-packaging-for-cereal-cookies/; Amazon, "Stores," Amazon Advertising, https://advertising.amazon.com/products/stores; Amazon, "Sponsored Products," Amazon Advertising, https://advertising.amazon.com/products/sponsored-products; Bobby Agarwal and Harjot Grewal, "5 New Stores Features to Engage Shoppers and Make Updates Easier," Amazon Advertising, 14 Jan. 2020, https://advertising.amazon.com/blog/5-new-stores-features-to-engage-shoppers-and-make-updates-easier?ref_=blog-list.

27 Rosie, "Shop Local with Us," https://www.rosieapp.com/press_releases/17; "Rosie Applications," CART, https://www.advancingretail.org/solutions/rosie.

28 "Rosie and First Data Forge Nationwide Partnership To Reduce eCommerce Costs," 7 June 2019, https://meet.rosieapp.com/blog/rosie-and-first-data-forge-nationwide-partnership-to-reduce-ecommerce-costs; Rosie, "Shop Local with Us."

29 "ShoptoCook and Rosie Announce Joint Partnership," 1 Nov. 2018, https://www.grocerydive.com/press-release/20181101-shoptocook-and-rosie-announce-joint-partnership/; ShoptoCook, "We Make It Easier," https://www.shoptocook.com/#section_home; Quotient, "CPG Digital Commerce Marketing Solutions That Drive Sales," https://www.quotient.com/.

30   "FreshDirect Opens New State-of-the-Art Facility Revolutionizing the Online Grocery Industry," AgriTech Tomorrow, 19 July 2018, https://www.agritechtomorrow.com/article/2018/07/freshdirect-opens-new-state-of-the-art-facility-revolutionizing-the-online-grocery-industry/10883; "FreshDirect Slices and Dices More Sharply Than Ever—How About Them Apples?" Medium, 7 Dec. 2015, https://medium.com/@ibmcloud/fresh-direct-delivers-personalized-food-to-your-door-thanks-to-ibm-cloud-experience-one-9f6399afa8bf; FreshDirect, "Shopping," https://www.freshdirect.com/help/faq_index.jsp?show=faq_shopping; Microsoft, "FreshDirect," 24 Apr. 2017, https://customers.microsoft.com/en-us/story/freshdirect; Alex Asianov, "DOOR3's Implementation of Xamarin Cross-Platform Mobile Architecture Delivered the Goods for FreshDirect," https://www.door3.com/articles/work/xamarin-cross-platform-mobile-architecture-freshdirect.

31   Megan Willett, "Food Wars: I Tried a Bunch of Different Grocery Delivery Services, and One is Way Better than the Others," Business Insider, 6 Aug. 2015, http://www.businessinsider.com/instacart-is-better-than-amazonfresh-and-fresh-direct-2015-8; Criteo, "Criteo to Acquire HookLogic, Strengthening its Performance Marketing Platform," 4 Oct. 2016, http://www.criteo.com/news/press-releases/2016/10/criteo-to-acquire-hooklogic/; Criteo, "Criteo Sponsored Products for Brands," http://www.criteo.com/products/criteo-sponsored-products-for-brands/.

32   HyVee, "Digital Coupons Frequently Asked Questions," https://www.hy-vee.com/resources/digital-coupons-faqs.aspx; HyVee, "Hy-Vee Digital Coupons on the Mobile App," YouTube, 2 Apr. 2014, https://www.youtube.com/watch?v=gMm1eRaE0qA.

33   HyVee, "Don't Wish It. Will It," https://innovate.hy-vee.com/?_ga=2.170865376.1994403656.1584044155-2020391757.1584044155.

34   "Albertsons Companies Hires Narayan Iyengar as SVP, Digital Marketing and E-commerce," 23 Jan. 2017, https://www.prnewswire.com/news-releases/albertsons-companies-hires-narayan-iyengar-as-svp-digital-marketing-and-e-commerce-300395068.html.

35   Cindy Zhou, "Congratulations to the Supernova Digital Marketing Transformation Award Finalists!" Constellation Research, 21 Oct. 2016, https://www.constellationr.com/blog-news/congratulations-supernova-digital-marketing-transformation-award-finalists.

36   "ShopRite CIO Named to Shopper Marketing Hall of Fame," Consumer Goods Technology, 6 Jan. 2017, https://consumergoods.com/shoprite-cio-named-shopper-marketing-hall-fame; "InComm Partners with Wakefern Food Corp. to Expand Gift Card Programs," PR Newswire, 13 Dec. 2016, http://www.prnewswire.com/news-releases/incomm-partners-with-wakefern-food-corp-to-expand-gift-card-programs-300377150.html; "Chase Pay is Expanding with a Supermarket Partnership," Business Insider, 20 oct. 2016. http://www.businessinsider.com/chase-pay-adds-wakefern-food-2016-10; "Wakefern Chooses Nielsen Brandbank to Capture and Enrich E-Commerce Content in the US," PR Newswire, 10 Dec. 2018, https://martechseries.com/content/wakefern-chooses-nielsen-brandbank-to-capture-and-enrich-e-commerce-content-in-the-us/.

37   Carol Angrisani, "Wakefern Invests In Digital," Supermarket News, 10 Oct. 2013, http://www.supermarketnews.com/2013-shopper-marketing-expo/wakefern-invests-digital; ShopRite, "Digital Coupon Center," http://coupons.shoprite.com/ShopRite%20Digital%20Coupon%20FAQ's%20-%20ShopRite.html; Mi9 Retail, "Digital Media Solutions," https://mi9retail.com/digital-media-solutions/.

38   Hayley Peterson, "Walmart and Amazon Will Now Compete on a New Battleground as Low-Income Shoppers Get Access to Spend Food Stamps Online," Business Insider, 18 Apr. 2019, https://www.businessinsider.com/walmart-and-amazon-will-compete-for-snap-spending-online-2019-4.

39   Rob Marvin, "5 Ways @WalmartLabs Is Revolutionizing Mobile Retail," PC Magazine, 23 Mar. 2016, http://www.pcmag.com/article2/0,2817,2493418,00.asp.

40   Brielle Jaekel, "Walmart is 2016 Mobile Retailer of the Year," Retail Dive, 3 Jan. 2017, https://www.retaildive.com/ex/mobilecommercedaily/walmart-is-2016-mobile-retailer-of-the-year-2.

41   Walmart, "Walmart Labs," https://www.walmartlabs.com; Walmart, "Data Scientist," LinkedIn, https://www.linkedin.com/jobs/walmart-labs-jobs?trk=expired_jd_redirect&position=1&pageNum=0.

42   Stefanie Jay, "Walmart to Acquire Technology and Assets of Polymorph Labs to Expand In-House Ad Technology," Walmart, 11 Apr. 2019, https://corporate.walmart.com/newsroom/2019/04/11/walmart-to-acquire-technology-and-assets-of-polymorph-labs-to-expand-in-house-ad-technology; Áine Cain, "Walmart

has Gobbled Up a Slew of Brands Since 2010—And It's All Part of a Strategy to Take on Amazon and Win Over Millennials," Business Insider, 27 Feb. 2019, https://www.businessinsider.com/walmart-acquires-digital-brands-list-2018-12#kosmix-2.

43   Wright's Market, "Wright's Market Mobile App," https://wrightsmarkets.com/app; Wright's Market, "Coupons.com," https://wrightsmarkets.com/coupons_com; Media Solutions, "Wright's Market Online Shopping," YouTube, 18 Aug. 2016, https://www.youtube.com/watch?v=ZZukzkOTIsY; Wright's Market, "Wright 2 U: Fact Sheet," http://files.mschost.net/wave/files/link_files/00-09/wrights-market-fact-sheet.pdf. Jimmy Wright, the owner of Wright's Market, testified on SNAP services on behalf of the National Grocers Association. Marice Richter, "Mr. Wright Goes to Washington," Fort Worth Business News, 16 Mar, 2019, http://www.fortworthbusiness.com/news/mr-wright-goes-to-washington/article_003049f8-4742-11e9-9d88-b38c0e833e3f.html. Quotient's Audience Cloud provides "extensive grocery, mass, drug and dollar retailer partnerships provide verified customer in-store and online past-purchase data for over 450 million UPC level transactions each month, while purchase intent data from our Promotions Cloud delivers hundreds of millions of digital coupon activation and redemption signals monthly. Plus, online search and browsing data from retailers' sites provide additional, and retargetable, signals of purchase intent. Our data is analyzed and managed in Quotient's DMP platform where it is categorized into over 1,000 targetable audience segments and optimized with geo-location and other data to deliver among the best targeted, most personalized CPG digital marketing campaigns." Quotient, "Quotient is the Result of Knowing," https://www.quotient.com/audience-cloud/; https://www.quotient.com/quotients-top-5-takeaways-from-digital-food-and-beverage/; Quotient, "Quotient Launches Audience Solutions Leveraging 100+ Million Consumers Connected to 5 Billion Annual Purchase Transactions," Business Wire, 30 July 2019, https://www.businesswire.com/news/home/20190730005573/en/Quotient-Launches-Audience-Solutions-Leveraging-100-Million. Quotient recently announced a partnership with Nielsen that will use that company's "omni-channel purchase intelligence into its audience and performance measurement to allow clients to deliver on the next frontier of data-driven marketing." Nielsen, "Nielsen and Quotient Technology Enter Strategic Partnership to Create New Industry Omni-Channel Data Set," 30 July 2019, https://www.nielsen.com/us/en/

press-releases/2019/nielsen-and-quotient-technology-enter-strategic-partnership-to-create-new-industry-omni-channel-data-set/; Liona Chan, "Quotient's Top 5 Takeaways from Digital Food and Beverage," 22 July 2019, https://www.quotient.com/quotients-top-5-takeaways-from-digital-food-and-beverage/.

44 See Russell Redman, "Kroger's 84.51° Launches Omnichannel Analytics Tool for CPGs," Supermarket News, 18 July 2019, https://www.supermarketnews.com/marketing/kroger-s-8451-launches-omnichannel-analytics-tool-cpgs; Joseph Turow, The Aisles Have Eyes: How Retailers Track Your Shopping, Strip Your Privacy, And Define Your Power (New Haven, CT: Yale University Press, 2017).

45 For example, see "Perfecting Paired Snacking Solutions Hit the Sweet Spot," CokeSolutions, https://www.cokesolutions.com/tools-and-resources/articles/perfectly-paired-snacking-solutions-hits-the-sweet-spot; "Oreo Cookies: Oreo Hot Mint Chocolate at 7-Eleven," https://www.effie.org/case_database/case/SME_2019_E-503-361; Karlene Lukovitz, "CPG's Find Powerful Partners as Retailer Ad Platforms Vie with Amazon," MediaPost, 16 Apr. 2019, https://www.mediapost.com/publications/article/334603/cpgs-find-powerful-partners-as-retailer-ad-platfor.html.

46 Amazon, "Amazon DSP Product Video," YouTube, 16 July 2019, https://www.youtube.com/watch?time_continue=7&v=ImiFcfBbebQ&feature=emb_logo.

47 Walmart, "Accountable Advertising Only Walmart Can Deliver," https://www.walmartmedia.com; Walmart, "Ad Solutions, https://www.walmartmedia.com/solutions; Erica Sweeney, "Report: Walmart Brings Website Ad Sales In-house," Marketing Dive, 20 Feb. 2019, https://www.marketingdive.com/news/report-walmart-brings-website-ad-sales-in-house/548743/.

48 Christine Kern, "Walmart Turns To Data Café Analytics Hub To Make Sense Of Data," Retail IT, 3 Feb. 2017, https://www.retailitinsights.com/doc/walmart-turns-to-data-caf-analytics-hub-to-make-sense-of-data-0001; Michael Diehr, "SAP HANA Powers Walmart's Data Café," SAP Community, 30 Mar. 2015, http://scn.sap.com/community/hana-in-memory/use-cases/blog/2015/03/30/sap-hana-powers-walmarts-data-cafe; Joe McKendrick, "Walmart's Gigantic Private Cloud for Real-Time Inventory Control," RT Insight, 31 Jan. 2017, https://www.rtinsights.com/walmart-cloud-inventory-management-real-time-data/.

49 Denise Power, "Coca-Cola Sees a Huge Opportunity in 'Shopper Marketing,'" CO, 7 Jan. 2020, https://www.uschamber.com/co/good-company/the-leap/coca-cola-marketing-campaigns.

50 "FreshDirect Slices and Dices More Sharply Than Ever—How About Them Apples?" Medium, 7 Dec. 2015, https://medium.com/@ibmcloud/fresh-direct-delivers-personalized-food-to-your-door-thanks-to-ibm-cloud-experience-one-9f6399afa8bf.

51 Selligent, "Universal Consumer Profile & CDP Capabilities," https://www.selligent.com/blog/news/welcome-freshdirect; Sylvie Tongco, "Welcome FreshDirect!" 25 Feb. 2020, https://www.selligent.com/platform/capabilities/universal-consumer-profile-cdp-capabilities; Selligent, "Behavioral Retargeting," https://www.selligent.com/platform/capabilities/behavioral-retargeting.

52 See, for example, Walmart, "Capital One® Walmart Rewards™ Card," https://www.walmart.com/cp/walmart-credit-card/632402; Kroeger, "Kroger REWARDS World Mastercard®," https://www.krogermastercard.com/credit/welcome.do?redirect=wwwdefault&lang=en&exp=. According to BI Intelligence, "Amazon could cut into issuing banks' profits and position itself as a potential challenger to traditional banking services…. Considering that Amazon recently introduced a way for consumers to add cash to their digital accounts at participating retail locations, it wouldn't be inconceivable for the tech giant to add even more banking features in the future." https://intelligence.businessinsider.com/amazon-appeasing-consumers-and-taking-on-banks-visa-dives-into-b2b-digitization-2017-6 (subscription required).

53 Walmart, "Walmart MoneyServices," https://www.walmart.com/cp/walmart-money-center/5433; Amazon, "Financial Services," https://aws.amazon.com/financial-services/.

54 Jacob Kastrenakes, "Amazon is Now Bribing Prime Members to Avoid Credit Card Fees," The Verge, 13 June 2017, https://www.theverge.com/2017/6/13/15793952/amazon-prime-reload-bonus-program-announced.

55 Laura Stevens and Sarah Nassauer, "Amazon Fights Wal-Mart for Low-Income Shoppers," Wall Street Journal, 6 June 2017, https://www.wsj.com/articles/amazon-fights-wal-mart-for-low-income-shoppers-1496732400.

56 Stephen Whiteside, "How Consumer Insights are Helping Walmart Disrupt the Healthcare Industry," WARC, Jan. 2020, personal copy, https://www.warc.com/SubscriberContent/article/event-reports/how-consumer-insights-are-helping-walmart-disrupt-the-healthcare-industry/130869.

57 "The Beginners Guide to the Programmatic AdTech Ecosystem: Explained in an Interactive Graphic!" Martech Advisor, 9 Mar. 2018, https://www.martechadvisor.com/articles/ads/the-beginners-guide-to-the-programmatic-adtech-ecosystem-explained-in-an-interactive-graphic/.

58 Ajay Agrawal, Joshua Gans, and Avi Goldfarb, Prediction Machines: The Simple Economics of Artificial Intelligence (Cambridge, MA: Harvard Business Review Press, 2018), pp. 1-5.

59 See Frank Pasquale, The Black Box Society: The Secret Algorithms that Control Money and Information (Cambridge, MA: Harvard University Press, 2015).

60 Dom Nicastro, "What Is Cross-Device Identification and How Can Marketers Use It?," CMS Wire, 27 June 2018, https://www.cmswire.com/digital-experience/what-is-cross-device-identification-xdid-and-how-can-marketers-use-it/.

61 Robert Allen, "What is Programmatic Marketing?" Smart Insights, 20 Nov. 2019, http://www.smartinsights.com/internet-advertising/internet-advertising-targeting/what-is-programmatic-marketing/. See, for example, Hazem Elmeleegy, Hinan Li, Yan Qi, Peter Wilmot, Mingxi Wu, Santanu Kolay, Ali Dasdan, and Songting Chen, "Overview of Turn Data Management Platform for Digital Advertising," Proceedings of the VLDB Endowment 6, n. 11 (Aug. 2013): 1138-1149, http://db.disi.unitn.eu/pages/VLDBProgram/pdf/industry/p850-elmeleegy.pdf.

62 LiveRamp, "Look-alike Modeling: The What, Why, and How," http://liveramp.com/blog/look-alike-modeling-the-what-why-and-how/. A discussion of look-alike modeling on Facebook explains that "modeling an audience off of a closely related competitor—say, Pepsi modeling Coke's audience—can be a winning tactic. Simply target that company's fans, and you have an audience pretty much guaranteed to be interested in your product." Dillon Baker, "How to Use Facebook's Best Feature: Targeting," Contently, 16 Dec. 2015, https://contently.com/strategist/2015/12/16/how-to-use-facebooks-best-feature-targeting/; Salesforce, "Krux of the Matter: What Audience Studio Can Do for Salesforce Users," https://www.salesforce.com/products/marketing-cloud/best-practices/lookalike-modeling/.

63 Dianna Christe, "Albertsons' Digital Media Platform Tallies 300 CPG Campaigns," Marketing Dive, 8 Apr. 2019, https://www.marketingdive.com/news/albertsons-digital-media-platform-tallies-300-cpg-campaigns/552168/; Albertsons, "Capabilities," https://albertsonsperformancemedia.com/capabilities/.

64 Albertsons, "Albertsons Performance Media, Powered by Quotient, Delivers Strong Results in First Year," 4 Apr. 2019, https://www.albertsonscompanies.com/newsroom/04-03-19-albertsons-performance-media-quotient-delivers-results.html.

65 For more generally on the growth and role of Amazon's advertising system, see Kelly Liyakasa, "What Amazon's Audience Match Tool Means For Advertisers," AdExchanger, 14 June 2017, https://adexchanger.com/ad-exchange-news/amazons-audience-match-tool-means-advertisers/; Kelly Liyakasa, "Behind Amazon's Pitch To Advertisers," AdExchanger, 7 Oct. 2013, https://adexchanger.com/ecommerce-2/behind-amazons-pitch-to-advertisers/.

66 Mi9 Retail, "Retail Analytics," https://mi9retail.com/retail-analytics/.

67 "Smartphone Users, U.S., 2020-2024." eMarketer, https://forecasts-na1.emarketer.com/ 584b26021403070290f93a22/ 5851918b0626310a2c186ae4

68 Factual, "Our Products," https://www.factual.com/products/; NinthDecimal, https://www.ninthdecimal.com.

69 Peter Adams, "McDonald's Drives 8.4K In-app Actions by Tying Geofenced Billboards to Waze," Mobile Marketer, 7 Mar. 2019, https://www.mobilemarketer.com/news/mcdonalds-drives-84k-in-app-actions-by-tying-geofenced-billboards-to-waze/549964/; Rob Marvin, "5 Ways @WalmartLabs Is Revolutionizing Mobile Retail," PC Magazine, 23 Mar. 2016, http://www.pcmag.com/article2/0,2817,2493418,00.asp;

70 Quotient, "Quotient Signs Definitive Agreement to Acquire Ubimo," 6 Nov. 2019, https://investors.quotient.com/press-releases/press-release-details/2019/Quotient-Signs-Definitive-Agreement-to-Acquire-Ubimo/default.aspx; Alteryx, "Solutions: Consumer Packaged Goods," https://www.alteryx.com/solutions/consumer-packaged-goods-analytics; PlaceIQ, https://www.placeiq.com.

71 "IRI Announces Partnerships with SPINS, PlaceIQ and Geoscape to Enhance IRI Verified Audiences," 19 June 2018, https://www.iriworldwide.com/en-US/News/Press-Releases/IRI-Announces-Partnerships-with-SPINS,-PlaceIQ-and; IAB, "Location-Based Marketing Glossary," https://www.iab.com/insights/location-based-marketing-glossary/.

72 For example, Choozle explains in regard to Geoframing that "your brand may wish to collect the device IDs of the individuals who come to their store to retarget them later to return for another purchase. Additionally, if you're Trader Joes, you can target the devices who have entered the perimeter of a nearby Whole Foods and try to attract customers to your store instead." Choozle, "Geofencing & Geoframing: The What, Why, and How of Location Targeting," 16 Apr. 2019, https://choozle.com/blog/geofencing-geoframing-location-targeting/.

73 Jennifer Valentino-DeVries, Natasha Singer, Michael H. Keller and Aaron Krolik, "Your Apps Know Where You Were Last Night, and They're Not Keeping It Secret," New York Times, 10 Dec. 2018, https://www.nytimes.com/interactive/2018/12/10/business/location-data-privacy-apps.html; 4INFO, "4INFO and Crossix Partnership Enables Pharma Brands to Deliver Mobile Ads Efficiently to Highly Qualified Audiences," 3 Mar. 2016, https://www.4info.com/Resources/Press-Releases/4INFO-and-Crossix-Partnership-Enables-Pharma-Brand.

74 Zach Norton, "ShopRite Case Study," http://www.zmichaelnorton.com/shoprite-case-study; Mi9 Retail, "About Us," https://mi9retail.com/about-us/. Shoprite is also partnering with Takeoff Technologies to help automate the delivery of products through "micro-fulfillment" centers. "Takeoff Technologies, Wakefern Food Corp. Launch Automated Micro-fulfillment Center in New Jersey," DC Velocity, 29 July 2019, https://www.dcvelocity.com/articles/20190729-takeoff-technologies--wakefern-food--corp--launch-automated-micro-fulfillment-center-in-new-jersey/.

75 Dianna Christe, "Albertsons' Digital Media Platform Tallies 300 CPG Campaigns," Marketing Dive, 8 Apr. 2019, https://www.marketingdive.com/news/albertsons-digital-media-platform-tallies-300-cpg-campaigns/552168/; Albertsons, "Capabilities," https://albertsonsperformancemedia.com/capabilities/.

76 Kroger Precision Marketing, "Our Products," https://www.krogerprecisionmarketing.com/products.html; News America Marketing, "Products & Solutions: Digital," https://www.newsamerica.com/products-solutions/digital/; Quotient, "CPG Solutions: Personalized Digital Promotions," https://www.quotient.com/cpg-solutions/#personalized-digital-promotions.

77 Rosie, "7 Key Reasons to Choose Rosie For your eCommerce Provider," Rosie Blog, 31 Aug. 2017, https://meet.rosieapp.com/blog/7-key-reasons-to-choose-rosie; Rosie, "Change Your Results, Switch to Rosie," Rosie Blog, 2 Nov. 2017, https://meet.rosieapp.com/blog/change-your-results-switch-to-rosie; Rosie, "Rosie New Users Guide & How To Create An Account," https://rosieapp.zendesk.com/hc/en-us/articles/204990849-Rosie-New-Users-Guide; Rosie, "Rosie Data Analytics: Understanding Your Customers," Rosie Blog, 1 Aug. 2017, https://meet.rosieapp.com/blog/rosie-data-analytics.

78 Cindy Zhou, "Congratulations to the Supernova Digital Marketing Transformation Award Finalists!" Constellation Research, 21 Oct. 2016, https://www.constellationr.com/blog-news/congratulations-supernova-digital-marketing-transformation-award-finalists; Albertsons, "Safeway Deals & Rewards," Google Play, https://play.google.com/store/apps/details?id=com.safeway.client.android.safeway; Microsoft, "Albertsons Companies to Transform Experiences for Shoppers with Microsoft Cloud and AI," 22 Feb. 2019, https://news.microsoft.com/2019/02/22/albertsons-companies-to-transform-experiences-for-shoppers-with-microsoft-cloud-and-ai/; "Albertsons Companies Selects Ecrebo to Enable Personalized Marketing at Point of Sale," 29 Oct. 2019, https://www.businesswire.com/news/home/20191029005375/en/Albertsons-Companies-Selects-Ecrebo-Enable-Personalized-Marketing.

79 HyVee, "Digital Coupons Frequently Asked Questions," https://www.hy-vee.com/resources/digital-coupons-faqs.aspx; HyVee, "PepsiPepsi® NFL 2020 Super Bowl LIV Sweepstake At Hy-Vee® NFL 2020 Super Bowl LIV Sweepstake At Hy-Vee," 27 Jan. 2020, https://hy-vee.com/corporate/news-events/promotions/pepsi-nfl-2020-super-bowl-liv-sweepstake-at-hyvee/.

80 HyVee," Aisles Online," https://www.hy-vee.com/grocery/; HyVee, https://www.hy-vee.com/mobile/mobile-app.aspx; Donna Boss, "The New Consumer: Hy-Vee Speaks Millennial," Supermarket News, 5 Jan. 2016, http://www.supermarketnews.com/marketing/new-consumer-hy-vee-speaks-millennial; HyVee, "PepsiPepsi® NFL 2020 Super Bowl LIV Sweepstake At Hy-Vee."

81 FMI, "FMI and Nielsen Release First Set Of Findings On The Digitally Engaged Food Shopper," 30 Jan. 2017, https://www.fmi.org/newsroom/news-archive/view/2017/01/30/fmi-and-nielsen-release-first-set-of-findings-on-the-digitally-engaged-food-shopper; Julia McCarthy, Darya Minovi, and Margo G. Wootan, "Scroll and Shop: Food Marketing Migrates Online," Center for Science in the Public Interest, Jan. 2020, https://cspinet.org/sites/default/files/attachment/Scroll_and_Shop_report.pdf; "Wakefern's New Sponsored Listings Boost Brands' Ecommerce Exposure," 17 July 2018, https://progressivegrocer.com/wakeferns-new-sponsored-listings-boost-brands-ecommerce-exposure; Walmart, "Walmart Sponsored Products," https://marketplace.walmart.com/walmart-sponsored-products/.

82 Lex Josephs, "Walmart Media Group Expands Sponsored Search Offering through Walmart Advertising Partners Program," Walmart, 3 Jan. 2020, https://corporate.walmart.com/newsroom/2020/01/03/walmart-media-group-expands-sponsored-search-offering-through-walmart-advertising-partners-program; Content26, "Reach Online Shoppers with Our Amazon Solutions," https://content26.com/content-advertising-solutions/.

83 See, for example, Mi9 Retail, "CRM: An Integrated Customer Experience and Relationship Management Solution for Retailers," https://mi9retail.com/crm/; Alicia Kelso, "Kroger Will Launch Tool for Suppliers to Reach Online Shoppers," Grocery Dive, 1 June 2018, https://www.grocerydive.com/news/grocery--kroger-will-launch-tool-for-suppliers-to-reach-online-shoppers/533969/; Ecrebo, "OnPoint Solutions," https://www.ecrebo.com/solutions.

84 Amazon, "Sponsored Display (beta)," Amazon Advertising, https://advertising.amazon.com/products/sponsored-display.

85 Amazon, "Frequently Asked Questions," Amazon Advertising, https://advertising.amazon.com/resources/faq; Amazon, "Sponsored Display (beta)." For more generally on the growth and role of Amazon's advertising system, see Liyakasa, "What Amazon's Audience Match Tool Means For Advertisers"; Liyakasa, "Behind Amazon's Pitch To Advertisers."

86 Amazon, "Snack Food Manufacturer Barcel Unlocks Sales Potential with Amazon Advertising," https://advertising.amazon.com/learn/case-studies/barcel?ref_=a20m_us_cslbry_bar.

87 Rosie, https://meet.rosieapp.com.

88 "Hy-Vee Becomes First U.S. Company to Partner with Citrus," Business Wire, 25 June 2019, https://www.businesswire.com/news/home/20190625005957/en/Hy-Vee-U.S.-Company-Partner-Citrus; "CitrusAd, "CitrusAd for Retailers," https://www.citrusad.com/retailers; "Mi9 Retail and CitrusAd Form Strategic Partnership to Disrupt $120 Billion Digital Advertising Industry,"17 July 2019, https://mi9retail.com/mi9-retail-citrusad-form-strategic-partnership-disrupt-120-billion-digital-advertising-industry/; Mi9 Retail, "Verticals: Grocery and CPG," https://mi9retail.com/grocery-retail-cpg-software/; "Mi9 Retail Announces Collaboration with Google Cloud to Advance Enterprise Retail Technology," 17 Sept. 2019, https://mi9retail.com/mi9-retail-announces-collaboration-with-google-cloud-to-advance-enterprise-retail-technology/; Mi9 Retail, "Digital Media Solutions."

89 Bannerflow, "9 Powerful Things Marketers Can Do with Dynamic Creative," https://blog.bannerflow.com/dynamic-creative/; "One Publicis: Kellogg's Rice Krispies Treats," Create with Google, https://create.withgoogle.com/inspiration/rice-krispies-treats.

90 Laurie Sullivan, "AdTheorent Releases Advanced Predictive Technology For Advertisers," 19 Dec. 2018, https://adtheorent.com/news/adtheorent-releases-advanced-predictive-technology-for-advertisers.

91 "Engaging Shoppers Through Decision Science," Path to Purchase Institute, https://p2pi.org/sites/default/files/CP16_EngagingShoppers_WP.pdf.

92 "Exploring Impulsivity and Online Shopping," Path to Purchase Institute, https://p2pi.org/sites/default/files/Exploring%20Impulsivity%20and%20Online%20Shopping.pdf.

93 TensorFlow, "The Coca-Cola Company Using TensorFlow for Digital Marketing Campaigns (TensorFlow Meets)," YouTube, 2 Aug. 2018, https://www.youtube.com/watch?v=hZMmH5yHvIk; "Pepsi uses Google's Director Mix to Push Latest Digital Campaign," MxM, 14 May 2018, https://www.mxmindia.com/2018/05/pepsi-uses-googles-director-mix-to-push-latest-digital-campaign/.

94 "Vantage Unlocks New Shopper Marketing Dollars for Growing Customer Base," FreshDirect case study available via https://gotvantage.com/freshdirect-vantage-unlocks-new-shopper-marketing-dollars-for-growing-customer-base/; Vantage, https://gotvantage.com. Vantage explains that its "technology stack is designed to help you understand your customers and anticipate their needs by using retailer and shopper intent data to create a holistic view of the shopper at scale. By continually monitoring shopping behavior like previously viewed and purchased products, sites visited and carts abandoned, our technology uses this key data and insight to drive a continual source of recurring revenue." Vantage, "Technology: Commerce Powered by Data Makes Your Business Unstoppable," https://gotvantage.com/technology/; Vantage, "For Retailers: How Will You Thrive in the Face of the Biggest Threat to Retail?" https://gotvantage.com/retailers/; Vantage, "The Ecommerce Solution You Need," https://gotvantage.com/ecommerce/.

95 Chris Wren, "7 Types Of Frictionless Retail," Branding Strategy Insider, 18 June 2019, https://www.brandingstrategyinsider.com/7-types-of-frictionless-retail/.

96 R. Polk Wagner and Thomas Jeitschko, "Innovation: Why Amazon's '1-Click' Ordering Was a Game Changer," Knowledge @ Wharton, 14 Sept. 2017, https://knowledge.wharton.upenn.edu/article/amazons-1-click-goes-off-patent/.

97 MasterCard, "Masterpass-Enabled Bots Launch on Messenger with FreshDirect, Subway and The Cheesecake Factory," https://newsroom.mastercard.com/press-releases/masterpass-enabled-bots-launch-on-messenger-with-freshdirect-subway-and-the-cheesecake-factory/; MasterCard News, "Masterpass-Enabled Fresh Direct Bot," YouTube, 18 Apr. 2017, https://www.youtube.com/watch?v=t CpisIt6KlE&feature=youtu.be.

98 Quotient, "Influencer Marketing and CPGs: Why It Matters and How to Make It Effective," 27 Sept. 2017, https://www.quotient.com/influencer-marketing-and-cpgs-why-it-matters-and-how-to-make-it-effective/; Facebook, "How Instagram Boosts Brands and Drives Sales," Facebook IQ, 6 Feb. 2019, https://www.facebook.com/business/news/insights/how-instagram-boosts-brands-and-drives-sales.

99 eMarketer, "Shoppable Content Will Evolve Toward Sight, Sound and Motion," 19 Dec. 2019, https://content-na1.emarketer.com/shoppable-content-will-evolve-toward-

sight-sound-and-motion; Surojit Chatterjee, "Connecting You to Visual Shoppers with New Ad Formats on Google Images," Google Ad Blog, 5 Mar. 2019, https://www.blog.google/products/ads/shopping-google-images/; "Introducing Checkout on Instagram," 19 Mar. 2019, https://about.instagram.com/blog/announcements/introducing-instagram-checkout; Dianna Christe, "Shopping Ads Land on YouTube, Reflecting Video's Role for Consumers," Marketing Dive, C Nov. 2019, https://www.marketingdive.com/news/shopping-ads-land-on-youtube-reflecting-videos-role-for-consumers/566715/.

100   "Nielsen Catalina Solutions (NCS) Sales Effect Measurement Service For YouTube Advertising is Now Available for CPG Advertisers," 30 Jan. 2019, https://www.ncsolutions.com/press-and-media/nielsen-catalina-solutions-ncs-sales-effect-measurement-service-for-youtube-advertising-is-now-available-for-cpg-advertisers/; Nielsen Catalina Solutions, "Sales Effect," https://www.ncsolutions.com/solutions/sales-effect/; IRI, "Data Partners," https://www.iriworldwide.com/en-US/Solutions/Media-en/Data-Partners.

101   Walmart, "Accountable Advertising Only Walmart Can Deliver," https://www.walmartmedia.com; Erica Sweeney, "Report: Walmart Brings Website Ad Sales In-house," Marketing Dive, 20 Feb. 2019, https://www.marketingdive.com/news/report-walmart-brings-website-ad-sales-in-house/548743/.

102   IRI, "IRI Partners with Google to Measure Offline Sales Lift of YouTube Advertising," 3 Oct. 2018, https://www.iriworldwide.com/en-US/News/Press-Releases/IRI-partners-with-Google-to-measure-offline-sales-.

103   "Facebook Attribution: A Measurement Tool for Today's Digital Advertising Landscape," Facebook for Busines, "19 Oct. 2018 https://www.facebook.com/business/news/facebook-attribution-a-measurement-tool-for-todays-digital-advertising-landscape; "Everyone is a Marketer with the Right Toolkit," Facebook for Business, https://www.facebook.com/business.

104   Amazon, "Amazon Attribution (beta)," Amazon Advertising, https://www.amazon.com/adlp/amazonattribution; Devon O'Rourke, "Amazon Attribution Updates," Amazon Advertising Blog, https://advertising.amazon.com/blog/amazon-attribution-updates?ref_=blog-list; Drawbridge Marketing, "What is Amazon Attribution?" 9 Sept. 2019, https://drawbridgemarketing.com/what-is-amazon-attribution/.

105   Amazon, "Quaker Success Story," Amazon Advertising, https://advertising.amazon.com/case/quaker?ref_=product-case; Nielsen, "Winning Diverse Shoppers In a Digital Retail World," 19 Jan. 2017, https://www.nielsen.com/us/en/insights/article/2017/winning-diverse-shoppers-in-a-digital-retail-world/.

106   Amazon, "Planters Reaches Audiences Throughout All Stages of the Customer Journey with Amazon Advertising," Amazon Advertising, https://advertising.amazon.com/learn/case-studies/planters?ref_=a20m_us_cslbry_plntrs.

107   Kat Vasilopoulos, "How The Hershey Company Reached Incremental Audiences with OTT," Amazon Advertising, 6 Feb. 2020, https://advertising.amazon.com/blog/how-the-hershey-company-reached-incremental-audiences-with-ott?ref_=blog-list.

108   Amazon, "Sign Up for the EBT and Medicaid Discounted Prime Offer," https://www.amazon.com/gp/help/customer/display.html?nodeId=GXX57KYG7NVNVHXK; Amazon, "Amazon Accepts SNAP EBT in Select States," https://www.amazon.com/b?node=19097785011&ref_=omps_surl.

109   Shoshana Zuboff, The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power, PublicAffairs, 2019.

110   As media scholar Joseph Turow has documented, retailers have incorporated surveillance systems into their physical stores as well, utilizing cameras that track customers' behavior, mobile geo-location systems that follow their routes down the aisles, and monitoring software that measures their reactions to in-store and online marketing appeals. See Turow, The Aisles Have Eyes; Nielsen, "Nielsen Marketing Cloud," https://www.nielsen.com/us/en/solutions/capabilities/nielsen-marketing-cloud/.

111   Leticia Miranda, "Thousands of Stores Will Soon Use Facial Recognition, And They Won't Need Your Consent," Buzzfeed News (Aug. 17, 2018), https://www.buzzfeednews.com/article/leticiamiranda/retail-companies-are-testing-out-facial-recognition-at; Annie Lin, "Facial Recognition Is Tracking Customers As They Shop In Stores, Tech Company Says, CNBC (Nov. 23, 2017), https://www.cnbc.com/2017/11/23/facial-recognition-is-tracking-customers-as-they-shop-in-stores-tech-company-says.html ("Facial recognition technology is used to identify a customer's gender, age and ethnicity"); Lara O'Reilly, "Walgreens Tests Digital

Cooler Doors With Cameras to Target You With Ads, Wall Street Journal, Jan. 11, 2019, https://www.wsj.com/articles/walgreens-tests-digital-cooler-doors-with-cameras-to-target-you-with-ads-11547206200.

112   "Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites," https://webtransparency.cs.princeton.edu/dark-patterns/

113   "New Study: Google Manipulates Users Into Constant Tracking," Frobrukerrådet, 2018, https://www.forbrukerradet.no/side/google-manipulates-users-into-constant-tracking

114   "Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites," https://webtransparency.cs.princeton.edu/dark-patterns/

115   While the study did not find any major differences in the healthfulness of products promoted to accounts in low-income vs. high-income zip codes, researchers acknowledged that they did not take into account other factors, such as IP address or browser history, that would have enabled them to probe for more granular differences in how individual consumers were treated by the retailers. McCarthy, Minovi, and Wootan, "Scroll and Shop: Food Marketing Migrates Online."

116   Brandt, et, al, "Availability of Grocery Delivery to Food Deserts in States Participating in the Online Purchase Pilot," https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2756107.

117   Jennifer L. Harris, Catherine Shehan, Renee Gross, "Food Advertising Targeted to Hispanic and Black Youth: Contributing to Health Disparities," Rudd Center for Policy and Obesity, Aug. 2015, http://www.uconnruddcenter.org/files/Pdfs/272-7%20%20Rudd_Targeted%20Marketing%20Report_Release_081115[1].pdf.

118   Harris, Shehan, and Gross, "Food Advertising Targeted to Hispanic and Black Youth."

119   Pauline Kim, "Data-Driven Discrimination at Work," William & Mary Law Review 48, 19 Apr. 2017, pp. 857-936, https://ssrn.com/abstract=2801251. Researchers show that "employers are increasingly relying on data analytic tools to make personnel decisions, thereby affecting who gets interviewed, hired, or promoted.... Proponents of the new data science claim that it will not only help employers make better decisions faster, but that it is fairer as well because it can replace biased human decision makers with "neutral" data.... However, as many scholars

have pointed out, data are not neutral, and algorithms can discriminate.... When these automated decisions are used to control access to employment opportunities, the results may look very similar to the systematic patterns of disadvantage that motivated antidiscrimination laws. What is novel is that the discriminatory effects are data-driven."

120 See USDA, "FNS Launches the Online Purchasing Pilot."

121 With the exception of the Children's Online Privacy Protection Act (COPPA), which requires parental consent for the online collection of data from children under 13, there is no federal law that sets rules for the collection, use, and disclosure of personal information online. Federal Trade Commission, "Children's Online Privacy Protection Rule ('COPPA')"; United States Government Accountability Office, "Internet Privacy: Additional Federal Authority Could Enhance Consumer Protection and Provide Flexibility," Jan. 2019, https://www.gao.gov/assets/700/696437.pdf.

122 Joseph Turow, "Americans and Online Privacy: The System is Broken," Annenberg Public Policy Center of the University of Pennsylvania, June 2003, http://www.asc.upenn.edu/usr/jturow/internet-privacy-report/36-page-turow-version-9.pdf.

123 State of California Department of Justice, "California Consumer Privacy Act (CCPA) Background on the CCPA & the Rulemaking Process," https://oag.ca.gov/privacy/ccpa.

124 Electronic Privacy Information Center, "Federal Trade Commission," https://epic.org/privacy/internet/ftc/Authority.html.

125 Federal Trade Commission, "Children's Online Privacy Protection Rule ('COPPA')," https://www.ftc.gov/enforcement/rules/rulemaking-regulatory-reform-proceedings/childrens-online-privacy-protection-rule.

126 Federal Trade Commission, "Online Advertising and Marketing," https://www.ftc.gov/tips-advice/business-center/advertising-and-marketing/online-advertising-and-marketing.

127 Digital Advertising Alliance. https://digitaladvertisingalliance.org; Network Advertising Initiative, "The NAI Code of Conduct," https://www.networkadvertising.org/code-enforcement/code/.

128 See, for example, Stanley Augustin, "Lawyers' Committee for Civil Rights Under Law and Free Press Action Release Proposed 'Online Civil Rights and Privacy Act' to Combat Data Discrimination," 11 Mar. 2019, https://lawyerscommittee.org/lawyers-committee-for-civil-rights-under-law-and-free-press-action-release-proposed-online-civil-rights-and-privacy-act-to-combat-data-discrimination/; "Booker, Wyden, Clarke Introduce Bill Requiring Companies To Target Bias In Corporate Algorithms," 10 Apr. 2019, https://www.booker.senate.gov/news/press/booker-wyden-clarke-introduce-bill-requiring-companies-to-target-bias-in-corporate-algorithms.

129 United States Department of Agriculture, "What is the Supplemental Nutrition Assistance Program Equal Treatment Provision?" 17 July 2019, https://ask.usda.gov/s/article/What-is-the-Supplemental-Nutrition-Assistance-Program-Equal-Treatment-provision.

130 The requirements also include a set of privacy principles, such as clear and complete description of data practices, limits on internal marketing data uses and an "opt-out for receipt of such materials," an "opt-in" for sharing personal information, and a prohibition against "selling, renting or giving away" sensitive data, as well as some limits on the use of "cookies." USDA, "FNS Launches the Online Purchasing Pilot."

131 We conducted this analysis in May and June of 2019.

132 Ghostery "monitors all the different web servers that are being called from a particular web page and matches them with a library of data collection tools (trackers)." Ghostery's "Enhanced Anti-Tracking" setting can identify whether the data requested by an ad tracker when a user lands on a page is "safe" or not. The number of these unsafe requests is a measure of how much personal data potentially gets transmitted from the merchant's website to other third parties without the individual's awareness or informed consent, and as such is another important measure of privacy-risk exposure. Ghostery, "How Does Ghostery Work?" https://www.ghostery.com/faqs/how-does-ghostery-work/; Zhonghao Yu, Sam Macbeth, Konark Modi, and Joseph M. Pujol, "Tracking the Trackers," 2016, https://static.cliqz.com/wp-content/uploads/2016/07/Cliqz-Studie-Tracking-the-Trackers.pdf. Note that the Federal Trade Commission's 2013 amendments to the Children's Online Privacy Protection

Rule modified the definition of "personal information" to include "a persistent identifier that can be used to recognize a user over time and across different Web sites or online services [including but not limited to] a customer number held in a cookie, an Internet Protocol (IP) address, a processor or device serial number, or unique device identifier."

133 Ghostery, "Tracking the Trackers: Ghostery Study Reveals That 8 Out of 10 Websites Spy on You," 4 Dec. 2017, https://www.ghostery.com/study/.

134 Because the USDA left out important aspects of privacy and security risks faced by consumers today, we considered additional e-marketing practices beyond what is included in the requirement but that have an impact on consumer privacy and heighten privacy-risk exposure. Even in the absence of regulation, there is an evolving set of voluntary privacy and security safeguards that have been adopted by some individual companies and self-regulatory regimes. For example, many websites provide users with an opt-out for targeted ads, or what the industry refers to as "interest-based advertising," via a link to the NAI website. Typically, that opt-out option is listed in the fine print of a website's privacy policy, as well as via the ad that may be served. Our examination of privacy policies sought to determine whether the companies provided information on how to opt-out of targeted ads by providing information about the Network Advertising Initiative (NAI) opt-out page, https://optout.networkadvertising.org/?c=1.

135 The framework of eight principles was codified in the 1980 "OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data," reaffirmed in 2013 and embodied in laws and regulations throughout the world. Organization for Economic Cooperation and Development, "OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data," http://www.oecd.org/sti/ieconomy/oecdguidelinesontheprotectionofprivacyandtransborderflowsofpersonaldata.htm; Robert Gellman, "Fair Information Practices: A Basic History," https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2415020; Pam Dixon, "A Brief Introduction to Fair Information Practices," World Privacy Forum, https://www.worldprivacyforum.org/2008/01/report-a-brief-introduction-to-fair-information-practices/. Today it is recognized by many that FIPS must be seen as the minimum necessary, but not a sufficient requirement. Data-use

limitations, especially those aiming to minimize disparate impacts on people of color, are now widely seen as needed for effective privacy regulations. See, for example, Public Citizen, "Privacy and Digital Rights for All," https://www.citizen.org/about/coalitions/digitalrights4all/.

136 Walmart, "Walmart Privacy Policy," 1 Jan. 2020, https://corporate.walmart.com/privacy-security/walmart-privacy-policy; Katharine Kemp, "Concealed Data Practices and Competition Law: Why Privacy Matters," UNSW Law Research Paper No. 19-53, 7 Aug. 2019, https://ssrn.com/abstract=3432769.

137 Safeway Community Markets, "Privacy Policy," 1 Jan 2020, https://www.safewaycommunitymarkets.com/privacy-policy.

138 See also A.E. Waldman, "There is No Privacy Paradox: How Cognitive Biases and Design Dark Patterns Affect Online Disclosure" *Current Opinion in Psychology*, 2019, doi: https://doi.org/10.1016/j.copsyc.2019.08.025.

139 HyVee, "Privacy: Our Commitment to Privacy," 8 Aug. 2018, https://www.hy-vee.com/corporate/policy/privacy/.

140 See, for example, the U.S. Code of Fair Information Practices (FIPs) and the OECD Privacy Guidelines. EPIC, "The Code of Fair Information Practices," https://epic.org/privacy/consumer/code_fair_info.html; OECD, "OECD Privacy Guidelines," https://www.oecd.org/sti/ieconomy/privacy-guidelines.htm.

141 Mi9 Retail, "Privacy Policy," 1 Jan. 2020, https://mi9retail.com/privacy-policy/.

142 Other data uses, if they are mentioned at all, are dispersed across the privacy policy or discussed on a separate page under "Interest Based Ads," which are further explained on two separate "opt-out" pages. See "Amazon Privacy Notice," "Interest Based Ads," "Amazon Advertising Preferences," and "Communication Preferences Center." Some disclosures, such as that for ShopRite, were riddled with errors during our investigation. ShopRite first erroneously directed users to the ShopRite® Price Plus® Club privacy policy, where the website states that ShopRite is operated by MyWebGrocer— when, in fact, it was operated by Mi9Retail.com, the company that acquired MyWebGrocer in 2018. The link to the privacy policy was broken, so a customer could not access the relevant privacy policy at the time. The privacy policy was subsequently corrected and updated.

143 Brigid Richmond, "A Day in the Life of Data," Australian Consumer Policy Research Centre, http://cprc.org.au/wp-content/uploads/CPRC-Research-Report_A-Day-in-the-Life-of-Data_final-full-report.pdf.

144 Even though almost all participating retailers admit to using some form of personalized marketing, only Amazon offers an opt-out for first party advertising (Amazon is the only ad delivery platform among the approved retailers), and Walmart notably offers a "personalized experience" opt-out, in addition to an email and mail marketing opt-out. In other words, for the most part SNAP recipients cannot effectively escape being the subject to online marketing efforts, despite USDA's intention of affording SNAP recipients with an opt-out in those circumstances. ShopRite's Mi9 Retail's privacy policy claims to offer an opt-out for internal marketing uses, including for "displaying content and advertising that are customized to your interests and preferences" as well, but does not provide one via its accounts settings.

145 Page M. Boshell, "The Power of Place: Geolocation Tracking and Privacy," Business Law Today, 25 Mar. 2019, https://businesslawtoday.org/2019/03/power-place-geolocation-tracking-privacy/.

146 Only web-based privacy policies were analyzed during May 2019. Mobile app disclosures were not evaluated.

147 Because USDA's privacy requirements simplify the complexity of data sharing among and between online companies, they fail to address real risks to consumers. The requirements only stipulate that retailers can only share personal data, "such as name, address, or email," with a third party if they have obtained a customer's opt-in consent. Retailers, such as FreshDirect, do not appear to adhere even to this basic requirement. Its privacy policy states that it does share data with third parties other than for fulfillment but does not provide an opt-in for this basic USDA requirement, in violation of USDA's requirements.

148 FreshDirect, on the other hand, refers to third-party trackers as "service providers."

149 These figures, however, are not averages, but rather reflect a momentary, one-time count of ad trackers *alone*, and thus represent a significantly higher number than the more inclusive tracker averages reported by Ghostery in 2018.

150 Yu, Macbeth, Modi, and Pujol, "Tracking the Trackers."

151 The number of these unsafe data-sharing requests is a measure of how much personal data potentially gets transmitted from the merchant's website to third parties without the consumer's awareness or informed consent, and as such is another important indicator of privacy risk exposure and potentially a violation of USDA's privacy requirements.

152 Network Advertising Initiative, "Opt Out of Interest-Based Advertising," https://optout.networkadvertising.org/?c=1.

153 Wright's Market, for example, explains that "advertisers (including ad-serving companies) may assume that people who interact with, view, or click targeted ads meet the targeting criteria." Wright's Market, "Privacy Policy," https://www.wright2u.com/privacy-policy.

154 Not even a time-intensive and complex process to opt-out from being served targeted ads through an industry self-regulatory program will protect consumers from this sharing. Marketers would have to be participants of the Network Advertising Initiative opt-out program, https://www.networkadvertising.org/. See also Sarah Bird, "The Law and Business of Online Advertising Conference Recap," Moz, 22 Apr. 2008, https://moz.com/blog/the-law-and-business-of-online-advertising-conference. The NAI's opt-out program does not prevent advertisers from collecting information about a site visitor; it only prevents advertisers from serving targeted ads.

155 Turnercowles, "Uber's Promises of Privacy Ring Hollow Says Group," *Money*, 22 June 2015, http://time.com/money/3930410/uber-privacy-ftc-complaint/; see also "FTC: Misleading Privacy Policies Could Trigger An Enforcement Action," AdExchanger, 17 Nov. 2015, https://adexchanger.com/data-exchanges/ftc-misleading-privacy-policies-could-trigger-an-enforcement-action/

156 Kemp, "Concealed Data Practices and Competition Law: Why Privacy Matters."

157 Kemp, "Concealed Data Practices and Competition Law: Why Privacy Matters."

158 The average consumer would need to spend between 181 and 304 hours each year reading these websites' privacy policies to be able to understand how her information is being used. Aleecia M. McDonald & Lorrie Faith Cranor, "The Cost of Reading Privacy Policies," http://lorrie.cranor.org/pubs/readingPolicyCost-authorDraft.pdf

159 Solon Barocas and Helen Nissenbaum, "Big Data's End Run Around Anonymity and Consent," in J. Lane, V. Stodden, S. Bender, & H. Nissenbaum (Eds.), *Privacy, Big Data, and the Public Good: Frameworks for Engagement* (Cambridge, UK: Cambridge University Press, 2014), pp. 44-75.

160 Daniel Susser, Beate Roessler, and Helen Nissenbaum, "Online Manipulation: Hidden Influences in a Digital World," 4 *Georgetown Law Technology Review 1* (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3306006.

161 See, for example, Solon Barocas and Andrew D. Selbst, "Big Data's Disparate Impact" 104 California Law Review 671 (2016), http://dx.doi.org/10.2139/ssrn.2477899 ; Barocas and Nissenbaum, "Big Data's End Run Around Anonymity and Consent."

162 Virginia Eubanks, Automating Inequality: *How High-Tech Tools Profile, Police, and Punish the Poor*. Picador, St Martin's Press, 2018, pp. 9-10; Mary Madden, Michele Gilman, Karen Levy, and Alice Marwick, "Privacy, Poverty, and Big Data: A Matrix of Vulnerabilities for Poor Americans," *Washington University Law Review* 95, n. 1 (2017): 53-125. The disadvantage can be produced intentionally or unintentionally, via data bias, bias in the data-processing design, or as a result of efforts to improve efficiency, maximize gain, and minimize costs or risks. See for example, bias in in software widely used to allocate health care to hospital patients. equally sick Black patients do not receive as much care as white patients, and the algorithm unintentionally exacerbated this racial disparity. See Heidi Ledford, "Millions of Black People Affected by Racial Bias In Health-Care Algorithms: Study Reveals Rampant Racism In Decision-Making Software Used By US Hospitals—And Highlights Ways to Correct It," *Nature*, 24 Oct. 2019, https://www.nature.com/articles/d41586-019-03228-6.

163 For example, through a practice known as *price steering,* two users will be shown two different product results for the same search, based on purchase history, interest level, or other personal information: one will receive more expensive product offers, while the other will be presented with lower-cost choices. *Price discrimination* occurs when two users are shown different prices for the same product. Researchers have found numerous instances of both price steering and discrimination on a number of top ecommerce sites. Aniko Hannak, Gary Soeller, David, Lazer, Alan Mislove, and Christo Wilson, "Measuring Price Discrimination and Steering on Ecommerce Web Sites," MC'14,November 5-7, 2014, Vancouver, BC, Canada, https://www.ftc.gov/system/files/documents/

public_comments/2015/09/00011-97593.pdf. "Our measurements suggest that both price and search discrimination might be taking place in today's Internet." Jakub Mikians, László Gyarmati, Vijay Erramilli, and Nikolaos Laoutaris, "Detecting Price and Search Discrimination on the Internet," 2012, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.352.3188&rep=rep1&type=pdf. Although some price discrimination (which the industry calls "dynamic pricing") may be expected across different markets and for different customers, the practice can be illegal if it is based on an individual's race, religion, nationality, or gender, or if it is in violation of antitrust or price-fixing laws. Disparate impact on people of color and low income as a result of price discrimination may be an unintended consequence, as was shown in the case study conducted by the *Wall Street Journal* on Staples.com product prices. The location of the shopper played a critical role that led to discounted prices for shoppers located in more affluent neighborhoods. Those neighborhoods happened to experience more competition among stores physically located in their zip codes. This disparate impact is nevertheless real and driven by historic racial discrimination, such as the effects of redlining in housing. Jennifer Valentino-DeVries, Jeremy Singer-Vine, and Ashkan Soltani, "Websites Vary Prices, Deals Based on Users' Information," *Wall Street Journal*, 24 Dec. 2012, https://www.wsj.com/articles/ SB10001424127887323777204578189391813881534 ; Ari Shpanya, "What is Price Discrimination and is it Ethical?" Econsultancy, 3 Jan. 2014, https://econsultancy.com/what-is-price-discrimination-and-is-it-ethical/.

164 Sandra Wachter and Brent Mittelstadt, "A Right to Reasonable Inferences: Re-Thinking Data Protection Law in the Age of Big Data and AI," *Columbia Business Law Review* (2019), https://www.researchgate.net/publication/328257891_A_Right_to_Reasonable_Inferences_Re-Thinking_Data_Protection_Law_in_the_Age_of_Big_Data_and_AI.

165 Muhammad Ali, Piotr Sapiezynski, Miranda Bogen, Aleksandra Korolova, Alan Mislove, and Aaron Rieke, "Discrimination Through Optimization: How Facebook's Ad Delivery Can Lead to Skewed Outcomes," 12 Sept. 2019, https://arxiv.org/pdf/1904.02095.pdf.

166 Amit Datta, Michael Carl Tschantz and Anupam Datta," Automated Experiments on Ad Privacy Settings, *Proceedings on Privacy Enhancing Technologies*, Apr. 2015, pp., 92-93, https://arxiv.org/abs/1408.6491. Researchers demonstrated gender differences in the delivery of online ads to jobseekers, with identified male users

"receiv[ing] more ads for a career coaching service that promoted high pay jobs," while female users received more generic ads. Ariana Tobin and Jeremy B. Merrill, "Facebook Is Letting Job Advertisers Target Only Men," ProPublica, 18 Sept. 2018, https://www.propublica.org/article/facebook-is-letting-job-advertisers-target-only-men; "Help Wanted," Upturn, Dec. 2018, https://www.upturn.org/reports/2018/hiring-algorithms/.

167 Brentin Mock B. "Remember Redlining? It's Alive and Evolving," *The Atlantic* 8 Oct. 2015, http://www.theatlantic.com/politics/archive/2015/10/rememberredlining-its-alive-and-evolving/433065; Natasha N. Trifun, "Residential Segregation After the Fair Housing Act," Human Rights Magazine, 1 Oct. 2009, https://www.americanbar.org/groups/crsj/publications/human_rights_magazine_home/human_rights_vol36_2009/fall2009/residential_segregation_after_the_fair_housing_act/.

168 Oscar Gandy, Jr., *Coming to Terms with Chance: Engaging Rational Discrimination and Cumulative Disadvantage* (Milton, Oxfordshire, UK: Routledge, 2016).

169 Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor,* (New York: Picador, St Martin's Press, 2018).

170 Tawana Petty, Mariella Saba, Tamika Lewis, Seeta Peña Gangadharan, and Virginia Eubanks, "Our Data Bodies, Reclaiming Our Data, Interim Report," 15 June 2018, http://eprints.lse.ac.uk/89638/1/Gangadharan_Reclaiming-our-data_Published.pdf.

171 Seeta Peña Gangadharan, "The Downside of Digital Inclusion: Expectations and Experiences of Privacy and Surveillance Among Marginal Internet Users," New Media & Society, 9 Nov. 2015, pp. 597-615, https://journals.sagepub.com/doi/abs/10.1177/1461444815614053.

172 Pam Fessler, "U.S. Census Bureau Reports Poverty Rate Down, But Millions Still Poor," NPR, 10 Sept. 2019, https://www.npr.org/2019/09/10/759512938/u-s-census-bureau-reports-poverty-rate-down-but-millions-still-poor.

173 Lola Fadulu, "Hundreds of Thousands Are Losing Access to Food Stamps," *New York Times*," 4 Dec. 2019, https://www.nytimes.com/2019/12/04/us/politics/food-stamps.html. Still under consideration are a July 2019 USDA proposal, which would take away food assistance from 3 million people, and another proposal in October 2019 "that would slice $4.5 billion from the program over five years, trimming monthly benefits by as much as $75 for one in five struggling families on

nutrition assistance." If implemented, these rules would particularly harm working families with children whose net incomes are below the poverty line, and families and seniors with even a small amount of savings. Food and Research Action Center, "Supplemental Nutrition Assistance Program (SNAP)," https://www.frac.org/programs/supplemental-nutrition-assistance-program-snap; Lola Fadulu, "Trump Administration Tries Again to Cut Back on Food Stamps," *New York Times*, 23 July 2019, https://www.nytimes.com/2019/07/23/us/politics/trump-food-stamps.html.

174 Spencer S. Hsu, " 14 states, D.C. and New York City Sue to Stop Trump Plan to Slash Food Stamps for 700,000 Unemployed People," *Washington Post*, 16 Jan. 2020, https://www.washingtonpost.com/local/legal-issues/14-states-dc-and-new-york-city-sue-to-stop-trump-plan-to-slash-food-stamps-for-700000-unemployed-people/2020/01/16/56f953ea-387a-11e-a-bb7b-265f4554af6d_story.html.

175 Christopher J. O'Leary, "Food Stamps and Unemployment Compensation in the COVID-19 Crisis," W.E. Upjohn Institute for Employment Research, 1 Apr. 2020, https://www.upjohn.org/research-highlights/food-stamps-and-unemployment-compensation-covid-19-crisis; Center on Budget and Policy Priorities, "USDA, States Must Act Swiftly to Deliver Food Assistance Allowed by Families First Act," 7 Apr. 2020, https://www.cbpp.org/research/food-assistance/usda-states-must-act-swiftly-to-deliver-food-assistance-allowed-by-families#_ftn8.

176 Kristin Salaky, "More States are Allowing SNAP Benefits to be Used for Online Grocery Orders Amid the Coronavirus," Delish, 2 Apr. 2020, https://www.delish.com/food-news/a32020365/snap-benefits-online-grocery-deliver/; Tom Wolf, "Governor Wolf Urges USDA to Waive Food Assistance Eligibility Requirements," 26 Mar. 2020, https://www.governor.pa.gov/newsroom/governor-wolf-urges-usda-to-waive-food-assistance-eligibility-requirements/.

177 McCarthy, Minovi, and Wootan, "Scroll and Shop: Food Marketing Migrates Online."

178 Any new safeguard regime will need to be rooted in strong privacy and consumer-protection principles that include full transparency, collection and use limitations, purpose specification, data minimization, individual rights, such as access and correction rights, accountability, data quality, confidentiality, and security. See, for example, Katharina Kopp, "Center for Digital Democracy's Principles for U.S. Privacy Legislation," 9 Oct. 2018, https://www.democraticmedia.org/blog/center-digital-democracys-principles-us-privacy-legislation.

179 For example, there should be limits on automated processing, profiling, and scoring with regard to decisions that affect an individual's life chances, such as for housing, education, employment, health, and healthcare. The marketing of foods should fall into this category, as it has significant impacts on life expectancy. High-risk data uses are also implicated when large data sets, including public data sets, or new technologies or applications such as artificial intelligence (AI), virtual reality, are deployed. The use of data that is in itself very sensitive or from which sensitive inferences can be drawn would also need to be limited. Data uses involving racial or ethnic classifications (or their proxies), children, as well as genetic, biometric, and other health data, or the use of geolocation data all potentially involve high-risk data processing and must be limited. Any data processing that involves sensitive or high-risk data uses must be assessed in terms of its impact on privacy, social justice, and in terms of its manipulative potential. Data uses that have a disproportionate impact on privacy and individual rights, as well as on classifications of online users or groups, must be limited. Data uses that are not fair, equitable, or otherwise produce unjust outcomes should be prohibited.

180 This includes hyper-personalization, "dynamic creative," and "dark patterns" or other design choice architectures. See, for example, Susser, Roessler, and Nissenbaum, "Online Manipulation: Hidden Influences in a Digital World."

181 See, for example, Nicol Turner Lee, Paul Resnick, and Genie Barton, "Operators of Algorithms Must Develop a Bias Impact Assessment," Brookings Institution, 22 May 2019, https://www.brookings.edu/research/algorithmic-bias-detection-and-mitigation-best-practices-and-policies-to-reduce-consumer-harms/; Dillon Reisman, Jason Schultz, Kate Crawford, and Meredith Whittaker, "Algorithmic Impact Assessments: A Practical Framework for Public Agency Accountability." AI Now Institute, Apr. 2018, https://ainowinstitute.org/aiareport2018.pdf.

182 For example, foods and beverages should be featured prominently on their home pages, email marketing, search engines and online check-out processes, and discounts and other price promotions should "...support food and beverage purchases consistent with expert dietary recommendations." McCarthy, Minovi, and Wootan, "Scroll and Shop: Food Marketing Migrates Online."

183 SNAP regulations at 7 C.F.R. §278.2(b) and 7 C.F.R. §274.7(f) require that SNAP recipients receive treatment equal to that received by other customers at all stores authorized to participate in SNAP with the exception that sales tax may not be charged on eligible

foods purchased with SNAP benefits. This equal-treatment provision prohibits both negative treatment (such as discriminatory practices) as well as preferential treatment (such as incentive programs).

184 For example, the California Consumer Privacy Act of 2018 (CCPA) affords California consumers important protections, such as the right to know what personal information a company has collected about them and to opt-out of the sale of that information. However, most consumer and privacy advocates do not believe it goes far enough. More concerning is that the adtech industry is engaged in efforts to evade the CCPA's right to opt-out of sales. Adam Schwartz, "Strengthen California's Consumer Data Privacy Regulations," Electronic Frontier Foundation, 6 Dec. 2019, https://www.eff.org/deeplinks/2019/12/strengthen-californias-consumer-data-privacy-regulations; Justin Brookman and Maureen Mahoney "Consumer and Privacy Group Comments on CCPA Compliance Framework for Publishers & Technology Companies," *Consumer Reports*, 6 Nov. 2019, https://advocacy.consumerreports.org/research/consumer-and-privacy-group-comments-on-ccpa-compliance-framework-for-publishers-technology-companies/.

185 See McCarthy, Minovi, and Wootan, "Scroll and Shop: Food Marketing Migrates Online," p. 40.

186 John Eggerton, "Privacy Groups Propose New Government Data Protection Agency," *Multichannel News*, 21 Jan. 2019, https://www.multichannel.com/news/privacy-groups-propose-new-government-data-protection-agency.

187 "Over 40 Civil Rights, Civil Liberties, and Consumer Groups Call on Congress to Address Data-Driven Discrimination" The Leadership Conference on Civil and Human Rights, 13 Feb. 2019, https://civilrights.org/2019/02/13/over-40-civil-rights-civil-liberties-and-consumer-groups-call-on-congress-to-address-data-driven-discrimination/. See, for example, Sen. Ed Markey's "Privacy Bill of Rights," https://www.markey.senate.gov/imo/media/doc/Privacy Bill of Rights Act.pdf, or the "Consumer Online Privacy Act" (COPRA), https://www.cantwell.senate.gov/imo/media/doc/COPRA Bill Text.pdf, which was introduced by Sen. Maria Cantwell along with Senators Schatz, Klobuchar, and Markey.

188 Adi Robertson, "A New Bill Would Force Companies to Check Their Algorithms for Bias," The Verge, 10 Apr. 2019, https://www.theverge.com/2019/4/10/18304960/congress-algorithmic-accountability-act-wyden-clarke-booker-bill-introduced-house-senate.

Appendix 1

Highlights of SNAP Online Purchasing Pilot Requirements

The USDA set the following privacy-related requirements for participating retailers in its e-commerce pilot program's Request for Volunteers (RFV):

- **Optimal privacy practices:** Participants must ensure that their website employs "optimal security and privacy practices."

- **Equal treatment:** Federal regulations require that SNAP benefits "shall be accepted for eligible foods at the same prices and on the same terms and conditions applicable to cash purchases of the same foods at the same store." This means that "customers must be treated according to the same policies established for all other customers, especially in the area of privacy, use of customer data...." Equally, SNAP participants "may not be given any special privileges or offers that are not available to other customers."

- **Opt-in for sharing with third parties:** The RFV states that "personal information such as name, address, or email address collected by SNAP Internet Retailers is not compromised, sold, rented, or given away free to any third party

without authorization." If retailers share personal information at the individual level, they must obtain an explicit consent from EBT customers to release such information; i.e., they must obtain an opt-in to allow sharing. Exceptions for an opt-in include data shared for fulfillment, processing payment, analyzing aggregate data and providing customer services.

- **No selling, renting or giving away of sensitive data:** Sensitive data such as credit card information may never be sold, rented or given away even with an opt-in. Applicants must agree in writing that their website will not share any private data with third parties for any current or future application or venture without the explicit consent of the EBT customers.

- **Opt-out for internal marketing uses:** "Internal use of personal information for marketing purposes does not require explicit customer approval, but the customer must have the opportunity to unsubscribe or opt out of receipt of such materials in the future."

- **Easily accessible privacy policy, clear and complete description of data practices:** The participant merchant must provide a link to the privacy policy on its home page and state any exceptions to the above requirements. The policy should describe exactly how the website itself will or will not use information about individual customers, and with whom the data is and is not shared. Furthermore, the RFV states that "the content and clarity of the current policies will be considered during the participant selection process."

- **Limited use of cookies:** In addition to these specific privacy requirements, the RFV lists under security requirements that it would prefer that Pilot participants do not use cookies, or if they do that the cookies do not store personal data on the user's device. USDA is concerned with the use of computers in public settings such as libraries, and security vulnerabilities if cookies are used. For their RFV submissions, "applicants must identify whether they use cookies, and if so, whether they retain personal information or whether it can be easily deleted or avoided."

Appendix 2

Evaluation of Retailer Privacy Policy Statements

The following evaluation of merchants' privacy disclosures provides a general summary of the privacy policy statement for each merchant chosen to participate in the SNAP pilot program. The merchants evaluated here are the retailers confirmed by USDA to be "the current pilot retailers that went through a Request for Volunteers (RFV) selection process" as of May 2019.[1] Note, however, that the list of participating merchants has changed compared to the beginning of the pilot; some were dropped, and some were added since.[2] Our evaluation, which we conducted throughout May of 2019, is based only on the text of the privacy disclosures provided online. Generally, we did not confirm whether or not the privacy disclosures are borne out by actual practices. We verified these claims via the

account's settings page only in circumstances where claims in the privacy disclosures seemed unusual.

Our focus here is on the Pilot's privacy requirements and whether the privacy policies state that they collect real-time geolocation data. Without actual knowledge of the company's privacy practices, as well as how companies implement their e-commerce and data applications, this evaluation relies on the privacy-policy disclosures, which are often unclear or ambiguous at best, and do not necessarily provide a true depiction of actual practices. As discussed above, in addition, we also looked at data practices with regard to third-party ad trackers and the sharing of unsafe data with third parties.

AMAZON

Amazon splits up its privacy disclosures across at least two pages, one under the header "Amazon Privacy Notice," and one under "Interest Based Ads." It provides additional disclosures on its opt-out pages for "Amazon Advertising Preferences," and at the "Communication Preferences Center." Amazon's privacy notice describes what kinds of personal information Amazon collects directly

from its customers, what it collects indirectly, what information it collects specifically via mobile phone usage, what information it collects via email interactions, and what information it collects from other sources. The company provides typical language with regard to data collection and sharing, but does not provide its own specific section on how it *uses* that information. It states generally that "the information we learn from

customers helps us personalize and continually improve your Amazon experience" and refers to other uses throughout the policy.

Amazon states that it collects location and unique mobile device information via the use of its apps, which it uses for "location-based services," including advertising. Amazon's disclosures mention cookies and that their usage enables Amazon to serve

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1   USDA e-mail, May 6, 2019. Copy in authors' possession.
2   See for example USDA's 2017 announcement that did not list Walmart at the time. https://www.fns.usda.gov/pressrelease/2017/fns-000117

personalized ads on other websites, such as on Amazon Affiliates, and on websites using Amazon Checkout. It refers to browser settings for information on how to turn cookie collection off, and explains that the user can "disable or delete similar data used by browser add-ons, such as Flash cookies, by changing the add-on's settings or visiting the Web site of its manufacturer." In addition, at a different section of the notice, Amazon discusses third-party advertisers and provides a link to information about "interest-based" ad policy. After clicking through, the user has to click a third time to be able to opt-out of "personalized ads from Amazon," or to go to the NAI for additional options to opt-out of "receiving personalized ads from third party advertisers." Note that Amazon, unlike the other e-retailers discussed here, operates its own advertising network. This is why it provides an opt-out on its site for these kinds of "first-party" ads.

Amazon explains that it shares information within its own company, with service providers (who are allowed to use data only to fulfill business functions), and, with consent of the customer, with other parties. It may also share data with "affiliated business" that Amazon does not control. While not providing an opt-in for sharing, Amazon states that the customer "...can tell when a third party is involved in ... transactions, and we share customer information related to those transactions with that third party." It does not seem entirely clear what this means, nor whether this is a violation of the USDA opt-in requirement for sharing with third parties.

Amazon provides a channel marketing opt-out for mail and email. And Amazon offers an opt-out for Amazon's interest-based ads, its use of personal information that Amazon gathers to "allow third parties to personalize advertisements we display to you," as discussed above. It does not provide an opt-out for any additional internal uses of personal information for marketing.

Amazon keeps its disclosures about its interest-based ads and privacy policy disclosures separately, which makes the policy less than transparent. So, for example, on its privacy policy Amazon details the type of information it receives from other sources, and provides detailed examples. In that listing, however, it does not discuss that "some third-parties may provide us information about you (such as the sites where you have been shown ads or demographic information) from offline and online sources that we may use to provide you more relevant and useful advertising," which it discloses only on the "Interest-Based Ads" web page. Only on this page, moreover, does the company acknowledge that some sharing with third parties is inevitably happening when users click or interact with "a personalized ad or content": "...advertisers and other third-parties (including the ad networks, ad-serving companies, and other service providers they may use) may assume that users who interact with or click on a personalized ad or content are part of the group that the ad or content is directed towards." It also highlights that third-party advertisers who place ads on Amazon.com use cookies "to personalize ad content," and states that it does not control the use of that data, such as IP address, that these third parties may collect.

SNAP RFV requirements:
Opt-in for sharing with third parties:
- Policy states that it does not share personal information about customers, but admits it does de facto share once customers click on ads.
- Unclear if an opt-in for sharing with "affiliated businesses" should be required.

Opt-out for internal marketing uses:
- Amazon offers an opt-out for mail/email offers;
- Offers an opt-out for "interest-based" first-party ads by Amazon, which covers ads on and off the site and across devices.
- It does not provide an additional opt-out for other internal uses of personal information for marketing, such as content personalization.

Additional Criteria:
The privacy policy states that Amazon collects geolocation data. And the Ghostery tool recorded 14 ad-related trackers and found 12 instances in which the tool had to anonymize unsafe personal data before they were shared with third parties. The privacy policy did provide a link for an NAI opt-out for third-party personalized targeted ads.

DASH'S MARKET/ROSIEAPP.COM

Unlike most of the other retailers, Dash's Market uses a third-party service, rosieapp.com, to provide its e-commerce services. A user signing up for Dash's Market home delivery must agree to sharing data with this third party, a separate entity from the grocer itself. The rosieapp.com privacy policy makes disclosures about the collection, use, and sharing of personal information. It describes that data collected directly from the user, which include "household size" and "birthday" and information that is automatically collected, such as information about the mobile device, browser, IP address, and device identifiers. Data are used to "personalize your experience," "to administer a contest, promotion, survey or other site feature," to "conduct research about your opinion …of potential new services that may be offered," "to process transactions," and to send periodic emails that include "updates, related product and service information, etc." Rosieapp. com may also use this information to send periodic emails about the order processing, "in addition to…occasional company news, updates, related product or service information."

Like most online privacy notices, the Rosieapp.com disclosures emphasize that personal information is not shared with third parties other than for fulfillment, that is, for use by other service providers to complete the transaction. Since Rosieapp. com collects the information in the first place, it will share personal information, such as the customer loyalty number, with the retailer.

Retailers may use this information to send periodic emails or postal mail, including marketing messages. Customers' data are exposed twice, then: once to rosieapp.com and once to the retailer.

"Rosie may also share information about you and your purchases in aggregated or anonymized form that does not directly identify you, such as providing information about your purchases to the Retailer, Wholesaler, or Supplier from whom you are purchasing groceries using a user ID number." Retailers, vendors, consultant and other service providers may perform statistical analysis. The privacy policy repeats in a different section that Rosie will disclose some information to third parties in non-identifiable form: "non-personally identifiable visitor information may be provided to other parties for marketing, advertising, or other uses."

Rosieapp.com uses cookies for order processing and fulfillment, but also to "keep track of advertisements and compile aggregate data about site traffic and site interaction so that we can offer better site experiences and tools in the future." It also contracts with "third-party service providers to assist us in better understanding our site visitors."

The disclosures describe two occasions when a customer can opt-out of email communications: when the customer receives the email from rosieapp.com, or from the retailer directly. It does not seem to provide an opt-out for online personalization of the site.

At sign-up, in addition to first and last name and zip code, the Rosie app collects date of birth, gender, and household size, which are data that are not necessary for the transaction.

SNAP RFV requirements:
Opt-in for sharing with third parties: Policy states it does not share personal information about customers; user IDs and customer loyalty numbers can be shared with the sponsor of the site, in this case, Dash's Market.

Opt-out for internal marketing uses:
- The privacy policy states that users can opt out of emails, but have to do so twice, once from the retailer and again from rosieapp.com.
- There is no opt-out for postal mail from the retailer.
- The site does not provide for additional opt-outs for "internal uses of personal information for marketing," such as personalized content or targeted ads.

Additional Criteria:
- The privacy disclosure, which also applies to the mobile app, does not mention the collection of geolocation information.
- The Ghostery tool recorded three ad-related trackers and found seven occasions where the tool had to anonymize unsafe personal data before they were shared with third parties. A link to the NAI opt-out is not provided.

FRESHDIRECT

FreshDirect's Privacy Policy first summarizes what information the company collects about its site visitors, how it uses that information and in what manner it is shared with others. In addition to the standard personally identifiable information, it also collects geolocation. It collects non-personal information about "platform" use automatically, either when accessed via a browser or via a mobile app. It collects information such as IP address, phone operating system and demographic information. FreshDirect collects data from third parties, such as social networks, when a site visitor or app user logs in to a social media service, for example. Data include demographic information, interests, and publicly observed data. FreshDirect uses this information from and about the user for platform services and "to help us tailor our communications to you and to improve our Platform."

FreshDirect also describes its use of cookies, but does not explicitly mention third-party cookies, but rather invites users to learn about "the use of cookies or other technologies to deliver more relevant advertising and your choices about not having this information used by certain Service Providers" by providing two links to such information. One of these links leads to the NAI's "opt-out of interest-based advertising" page (although the link is not labeled as such); the other, oddly, leads to an IBM page

about Watson Marketing: "Engage and understand your customers at scale, wherever they are." In this context, moreover, it seems misleading to suggest that third-party trackers are "service providers," implying that data are only used as specified in the privacy policy, when in fact these trackers operate under their own terms for sharing and using data in non-transparent ways.

Data are used for, among other purposes, "customized Platform content, targeted offers, and advertising on the Platform, [and] on other third party sites or apps." Aggregated data are used for "analytical and demographic purposes." Customers can limit the use of their information as described in the policy by sending an opt-out request by postal mail or email, which is not user friendly. It appears that this opt-out only refers to marketing offers via email and mail.

Unlike most companies, FreshDirect shares personal information with "select partners, affiliates, and other third parties that we believe may have offers of interest to you." It does not appear to offer an opt-in or opt-out for this sharing, which is a violation of the SNAP RFV. Additionally, FreshDirect "may share aggregate or anonymous non-personal information with third parties for their marketing or analytics uses."

SNAP RFV requirements:
Opt-in for sharing with third parties:
- FreshDirect shares with third parties, but the privacy policy does not appear to offer an opt-in for the sharing with "select partners, affiliate and other third parties."

Opt-out for internal marketing uses:
- The privacy policy offers its customers an opt-out for "having their information used for purposes not directly related to placement, processing, fulfillment or delivery of a product order at the point where we ask for the information." It appears that this opt-out only covers email offers and postal mail offers.
- FreshDirect does not appear to provide an opt-out for "customized Platform content...."

Additional Criteria:
The privacy policy stated that FreshDirect collects geolocation data. And the Ghostery tool recorded 17 ad-related trackers and found 18 occurrences in which the tool had to anonymize unsafe personal data before they were shared with third parties. The privacy policy did provide a link that leads to the NAI opt-out for third-party personalized, targeted ads, but it is not clearly marked as such. Third-party trackers are misleadingly referred to as "service providers."

HY-VEE INC.

Unless logged into an account, the company automatically collects only non-identifiable information, such as IP address, referring URL, information about the web browser and operating system, and referral URL, according to its privacy policy. Hy-Vee also states that the company collects data, such as name, credit- and/or debit-card information, physical location, e-mail address, mailing address and telephone number, directly from individuals. The disclosure about data usages is limited to purposes such as website operation and fulfillment. Among other things, data are used to "monitor, review, measure and analyze website utilization; to modify and enhance our Service; to improve content and design our Services"; for fulfillment, to "distribute news and other information; to administer surveys, promotions, giveaways, contests and sweepstakes, and loyalty and/or rewards programs." Hy-Vee does not list whether it personalizes the site experience, and generally leaves all options for data usage open with the following statement: "The foregoing list is not exclusive or exhaustive."

The privacy policy states that Hy-Vee will not "rent, sell, exchange or provide personally identifiable information with any third party organization without your express consent (opt-in)." But it will share information with "organizations affiliated with

Hy-Vee, Inc., and with third parties through which we either fulfill your order or information request." Based on this language, It is unclear what "organizations affiliated with Hy-Vee Inc." actually means, but looking around the website, it seems that Hy-Vee Inc. has acquired various companies, including a pharmacy, a florist, and a bank. On the other hand, individuals can opt out of the "transfer of their personally identifiable information to organizations affiliated with Hy-Vee, Inc., or correct such information by writing to us at the contact address at the end of this privacy statement. If you opt-out we may not be able to fulfill your order or answer your information request." Again, it is unclear what "organizations affiliated" with Hy-Vee are and if the opt-in for third-party sharing under the Pilot RFV should apply.

The policy offers opt-out for email and mail, as well as an opt-in for texting. Winners' names of sweepstakes, contests, giveaways, etc., however, will be posted publicly on Hy-Vee's website and "other advertising mediums," and personally identifiable information may be disclosed to "promotional campaign participants" after disclosing the rules in advance.

The policy also refers to the use of cookies, and points to browser settings to manage them. Hy-Vee itself uses

cookies "to store and sometimes track visitor information and preferences, including remembering your login information for when you return to our Services." The policy does not mention the use of third-party cookies for ad tracking. There is no reference to the NAI behavioral ad opt-out page but Hy-Vee informs the reader that the browser can be set to reject cookies.

SNAP RFV requirements:
Opt-in for sharing with third parties: The privacy policy states that it will offer an opt-in for renting, selling, exchanging or providing personally identifiable information to any third party. The term "organizations affiliated with Hy-Vee" is not defined, so it is not clear if an opt-in should apply here.

Opt-out for internal marketing uses: The company offers an opt-out for mail, email, and an opt-in for texting communications.

Additional Criteria:
The privacy policy stated that Hy-Vee Inc collects "physical location" or geolocation data. And the Ghostery tool recorded five ad-related trackers and found six instances where the tool had to anonymize unsafe personal data before it was shared with third parties. The privacy policy did not provide a link that leads to the NAI opt-out for third-party personalized targeted ads.

SAFEWAY

Safeway's long privacy policy is issued by Albertsons Companies, which encompasses at least 20 well-known brands nationally, including Albertsons, ACME, and Pavilions. It specifies upfront that aggregate and de-identified data are not covered by its privacy policy. The site or app collects a comprehensive set of personal data, including personal information the customers provide directly; information that is automatically collected, including "mouse clicks and movements"; real-time location information (unless the user disables the sharing on the mobile device); mobile device information, such as operating system data and IP address; demographic information from third parties; and information collected via cookies, web beacons, and similar technologies.

Tracking technologies may operate at Albertsons Companies' sites and at third-party websites. They collect information about "preferences and how you interact with our websites and mobile applications." These technologies help Safeway to "recognize you, customize or personalize your shopping experience, store items in your online shopping cart between visits, and analyze the use of our services and solutions to make them more useful to you." The technology also helps to "aggregate demographic and statistical data and compilations of information." Safeway or its service providers may "link this information with other personal information about you and may use this linked information to allow third parties to serve ads on our websites or mobile applications or to serve our ads to you on a third party's website or mobile application." The privacy policy states that if a customer "clicks through" on an ad to a third-party website, the third party "may collect information about you and your visit"; however, the policy states that Albertsons is not responsible for third-party data practices.

Safeway suggests that users check browser settings for third-party cookie tracking and opt-outs, that they check with Adobe on Flash cookie management tools, with the NAI AdChoices for opt-outs of "of certain third party services that may involve tracking." It also recommends a visit to a Google website for "downloading and installing the Google Analytics Opt-out Browser Add-on." It does not provide a direct link to the NAI third-party tracking opt-out on Safeway's privacy policy page. Overall, the website offers four ways for the user to opt-out of tracking.

Personal information is used for a long list of purposes, among other things, for fulfillment and "contacting you about programs, products, or services that we believe may be of interest to you, or sharing with you special offers from other companies"; "providing you with personally tailored coupons, programs, promotional information, offers, content, and ads"; "analyzing transactions or purchase histories to present customized offers to you or to improve our products, services, programs, and other offerings, …

verifying and validating your identity, [and] …preventing, investigating, or providing notice of fraud, unlawful or criminal activity." This listing of uses can be found under "Our Use of Personal Information." Other uses were already listed under the "collection information" header when discussing cookies and similar tracking technologies, such as serving personalized ads and to provide personalized experiences.

While the policy states that personal information may not be disclosed to third parties without consent, it is likely that data collected on the Safeway website will be shared with the parent company, Albertsons Companies, which issues the privacy policy, or with affiliated companies, for their use. The policy specifically points out under the header "Health Information/Pharmacies" that personal information may be shared with "our parent or affiliated companies" for their use consistent with the privacy policy. This sharing issues is not addressed for non-health related data.

Opt-out choices apply to communications channels such as print, email, fax, voice and text messages, as well as Google Analytics. The policy does not appear to offer an opt out for all the various internal marketing uses listed above, such as a personalized shopping experience, "personally tailored coupons, programs, promotional information, offers, content and ads."

SAFEWAY (CONT.)

SNAP RFV requirements:

Opt-in for sharing with third parties: Safeway says it does not share personal information with third parties without consent. It does de facto share personal information with third parties when customers click on ads. Sharing within "affiliated companies" is unclear.

Opt-out for internal marketing uses: The privacy policy offers an opt-out for communications channels and Google Analytics. No opt-out is provided for other internal marketing uses.

Additional Criteria:

The privacy policy stated that Safeway collects real-time or geolocation data. And the Ghostery tool recorded eight ad-related trackers and found 11 instances where the tool had to anonymize unsafe personal data before it was shared with third parties. The privacy policy did not provide a link to the NAI opt-out for third-party personalized targeted ads.

SHOPRITE

The privacy disclosures at ShopRite are in a state of disarray. Like Dash's Market, the ShopRite website is operated by a third-party provider, Mi9 Retail. Customers of ShopRite (owned by Wakefern Food Corp.), however, are told that the ShopRite site is operated by MyWebGrocer. In fact, MyWebGrocer was acquired by Mi9 in October 2018, and it appears that ShopRite did not provide a link to the relevant privacy policy immediately, and still incorrectly refers to MyWebGrocer as the operator of the site, instead of Mi9 Retail. A user who arrives at the seemingly correct privacy policy after clicking through twice, finds out that the policy only applies to its club members: ShopRite® Price Plus® Club. Shoppers who want to read the privacy policy that applies to their online shopping are directed to a link that was broken until recently. As of June 20, 2019, the link leads to a page provided by Mi9 Retail; however, it is referred to as "MyWebGrocer's" privacy policy. (old link MWG Privacy Policy)

In any case, the relevant privacy policy is hosted by Mi9 Retail. The privacy policy provides a rather detailed and wordy account of its data practices. The policy states that "Mi9 Retail, Inc. and our subsidiaries and affiliates" collect publicly available data such as social media data, data from partners, and data form third-party sources, "such as marketing opt-in lists, or data aggregators," and data either directly obtained from the customer at registration or indirectly obtained via the use of the service.

Mi9's privacy policy also states that its data practices comply with the EU-US Privacy Shield regarding the collection, use, and retention of personal information transferred from the European Union to the United States.

Collected data are used for a long list of purposes, including improving content, fulfilling requests, registering, and to obtain third-party services. Certain internal marketing uses are only done if the consumer has opted-in: "provided that you expressly agree at the time of the collection," Mi9 Retail may "tailor marketing to your needs," "improving our products, services and solutions and for displaying content and advertising that are customized to your interests and preferences." Given that this is an unusual promise, we checked if after registering with the site this opt-in choice was provided. It turns out that before registering to shop online, a user has also to register for the Price Club and provide additional information, such as age, number of people in the household, and gender. Once registered with the ShopRite site, there are no opportunities to provide an "express consent" for internal marketing, such as tailored content or advertising, under the "my account" settings; nor is there an ability to change email settings. So, while the idea of an internal marketing opt-in is good, in addition to an email opt-in, none is provided on the site, despite the fact that the site tailors content to the user, such as a section called "Recommended for you."

Mi9 Retail's privacy policy states that it shares personal information with third parties to allow them to perform services on its behalf. It may "transfer" information to "the partners of Mi9 Retail in order to send promotional messages relating to products, services, and offers," provided that the consumer expressly agreed. Given that the internal marketing opt-in only exists on paper, it seems unlikely that the third-party opt-in amounts to more than the words in the policy. There is no third-party opt-in under the "my account" settings.

The M19 Retail policy also states that personal information may be used to communicate with the customer for "certain mandatory service communications," or to inform the customer "of products or services available from Mi9 Retail." The only way to "withdraw your consent" from such communications is by sending an email to the company, which is not a customer-friendly process. Also, it is not clear when the consent was provided in the first place.

The policy also provides an explanation of the use of "electronic communications protocols," "cookies," "embedded URLs," "embedded pixels and similar technologies," "widgets, buttons, and tools," including the use of these technologies for advertising, tracking ad-campaign responsiveness, the collection of additional information and, "ultimately, the preferences of the User of the Services, which can allow us to tailor the websites to your interests." The privacy statement claims no responsibility when it comes to third-party trackers: "Information collected or used by a widget, button, or tool, including cookie settings and preferences, is governed by the privacy policy of the company that created it." Nor is a link provided to the NAI third-party tracker opt-out.

The site collects "physical location of your device and use it to provide you with personalized location-based services or content."

The privacy policy also addresses data retention, stating that it will retain data "as long as reasonably necessary to fulfill the purpose(s) for which it was collected," but then lists various exceptions. Cookies will be preserved for a "maximum of 13 months," however. The site provides many additional details, such as compliance with the Children's Online Privacy Protection Act, asking users not to share their sensitive information with the company, how to contact and access user data, enforcement, and changes to the policy.

SNAP RFV requirements:
Opt-in for sharing with third parties: Mi9 Retail claims to share user data only with express consent. However, this option was not provided under My Account Settings.

Opt-out for internal marketing uses: Mi9 Retail allows customers to opt-out of communications only by sending an email. It claims also that other internal marketing uses of personal data will happen only on the basis of express consent. No such option was found under My Account Settings, however.

Additional Criteria:
The privacy policy states that Mi9 Retail collects real-time or geolocation data. And the Ghostery tool recorded three ad-related trackers and found four cases where the tool had to anonymize unsafe personal data before it was shared with third parties. The privacy policy did not provide a link to the NAI opt-out for third-party personalized targeted ads.

WALMART

Walmart Inc. owns a variety of entities, including various types of Walmart stores, Sam's Club, Vudu (a TV and movie content-delivery platform), and various other retail e-commerce brands. Walmart's [privacy policy's scope pertains to](#) personal information. Walmart collects information directly from the customers and about the customer via the customer's use of technology. This information includes the standard personal information, such as name and address, as well as device information (including IP address, browser type, unique device identifier), browsing information about the use of websites and mobile devices, location information (if the mobile device is set to provide location information or via the use of Wi-Fi or Bluetooth technology), including information collected via Wi-Fi and Bluetooth technology in the stores and via in-store cameras. Walmart obtains additional personal information from third parties "to help us correct or supplement our records, improve the quality or personalization of our service to you, and prevent or detect fraud," and from "consumer reporting agencies" in conjunction with products or services that involve financial risk to Walmart.

Walmart uses this information to fulfill customer requests, to personalize offers ("personalize our service offerings, websites, mobile services, and advertising"), to support "customer marketing and analytics efforts," and for marketing generally, among other uses. For example, it provides for a "continuous and more personalized shopping experience for you," including the ability to "show you nearby products that may interest you."

Walmart combines all of its personal and nonpersonal data, data collected off and online, and data from third-party sources, as well as data from within its corporate entities.

According to its Privacy Policy, Walmart shares information collected with its "corporate family of companies." It does not sell or rent personal information to third parties, but may share personal information "in limited circumstances, such as to conduct our business, when legally required, or with your consent." Walmart will share with third parties, such as service providers; with companies that offer products and services on its platform, such as via Marketplace; with financial services companies that offer co-branded credit cards, as legally required; or when the company may be merged, sold or reorganized with another entity. Otherwise, the website states that it will "ask for your affirmative consent before we share your personal information outside of our corporate family of companies, and we also will not sell or rent your personal information."

Customers can opt-out or opt-in for marketing-related communications channels, such as text messages or email. And Walmart offers an opt-in for the sharing of "your information with other companies so they can provide you with their own marketing and promotions." Walmart offers an opt-out from internal uses of personal information for a "personalized experience" to allow Walmart to tell its customers "about items and information that we think you'll find especially interesting." ("Allow us to use your personal information, including your in-store and online

transaction history, to personalize your experience with us. This lets us tell you about items and information that we think you'll find especially interesting.")

Walmart also lists various ways in which customers can opt-out of ads from Walmart or its advertising partners "that are tailored to your interests." There is a separate page that explains those options, which include the option to opt-out via the NAI website.

The privacy policy also refers to the mobile device settings to "control whether your device communicates … location information."

SNAP RFV requirements:
Opt-in for sharing with third parties: Walmart says it shares personal information with third parties (for marketing-related purposes) only with opt-in consent.

Opt-out for internal marketing uses: Walmart offers channel opt-outs (for email, mail, etc.), and offers an opt out for internal marketing-related personalized offers.

Additional Criteria:
The privacy policy states that Walmart collects real-time or geolocation data if one's browser is set accordingly. And the Ghostery tool recorded 13 ad-related trackers and found 11 instances where the tool had to anonymize unsafe personal data before it was shared with third parties. The privacy policy provided a link to the NAI opt-out for third-party personalized targeted ads.

WRIGHT'S MARKET

Wright's Market's <u>Privacy Policy</u> states that it covers personal information that it collects directly from the customer, along with information about the customer via the customer's use of the site (e.g., transactions the user undertakes, details from payment-card transactions, participation in promotional programs, and Club Card usage). These data are used to "provide and personalize Wright's Market services," and to make communications more relevant.

Once registered, customers can set their "contact preferences" by opting out from commercial communications or survey questions. However, we were unable locate a "Contact Preferences" page after registering for an account.

Wright's Market does not share personal data with any third party except "its related companies, and all of its Members," or any successor company or companies that process data on its behalf. It may share aggregate data with marketing programs, advertisers, and partners.

Wright's Market states that its display advertising is based on personal information. While "Wright's Market does not provide any individual personal information to the advertiser when you interact with or view a targeted ad," "advertisers (including ad serving companies) may, however, assume that people who interact with, view, or click targeted ads meet the targeting criteria."

The disclosures discuss cookies, explaining that they are used for a variety of purposes, including navigating the site, simplifying the log-in process, facilitating online shopping, and enabling traffic monitoring. Wright's also acknowledges using clear gifs, which enable it " to gauge the effectiveness of our services and marketing programs." It does not provide a link to the NAI opt-out.

SNAP RFV requirements:
Opt-in for sharing with third parties: Wright's Market does not share personal information with third parties for marketing purposes. But it de facto shares when customers click on ads.

Opt-out for internal marketing uses: Wright's Market disclosures state that a customer can set contact preferences after registration. No such "Your Contact Preferences" page was found. No other internal marketing opt-outs were provided.

Additional Criteria:
Wright's Market privacy policy makes no references to geolocation data. And the Ghostery tool recorded one ad-related tracker and found two cases where the tool had to anonymize unsafe personal data before it was shared with third parties. The privacy policy did not provide a link to the NAI opt-out for third-party personalized targeted ads.

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