The Online Grocery Marketing Scorecard

How Retailers Score on Healthy Food Marketing

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Center for Science in the Public Interest

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I. Executive Summary

Three-quarters of Americans' calories come from food purchased at retailers, making grocery stores and the retail food environment key contributors to the diets and health of Americans.[1] As the food environment evolves, it is becoming more digitized.[2] The COVID-19 pandemic more than doubled sales in online grocery shopping in the U.S.,[3] and online grocery sales is projected to account for over ~21% of total grocery sales in the U.S. by 2025.[2] The expansion of online grocery shopping presents new opportunities and challenges for improving food access and prioritizing healthy food marketing.

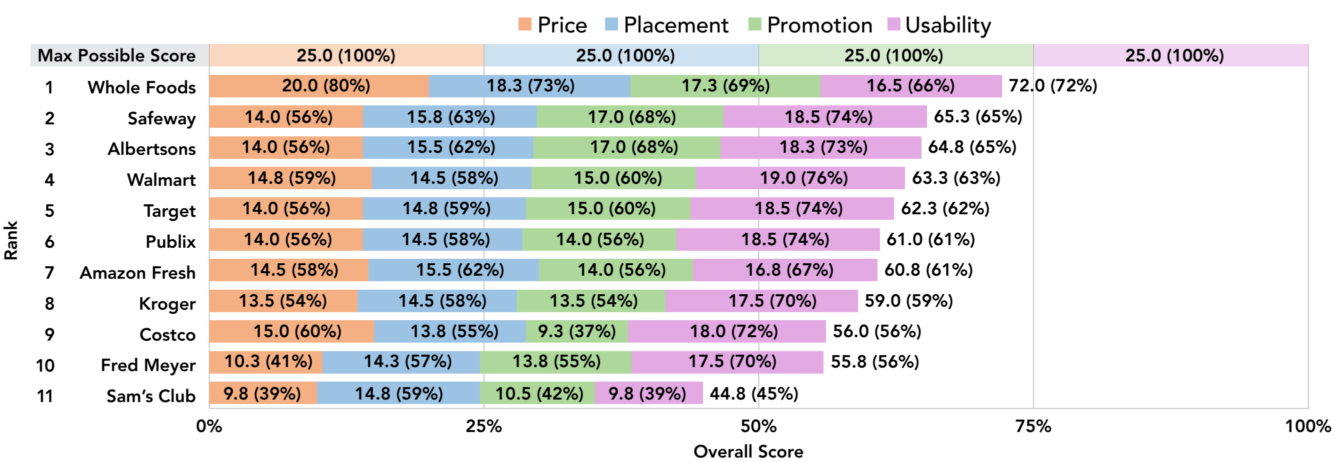
Despite the growing use of online grocery platforms, there is limited research examining online food marketing practices. To address this gap, the Center for Science in the Public Interest (CSPI) conducted online shopping simulations in 2023 to assess the online food retail environments at 11 top revenue-generating online food retailers in the U.S.

Our study scored and ranked these retailers based on the healthfulness of food marketing online with respect to the following four dimensions:

- **Pricing:** healthfulness of products marketed with price marketing strategies (e.g., discounts, rewards, and time-limited deals)
- **Placement:** healthfulness of products marketed with placement strategies (e.g., sponsored product recommendations, cross-promotions, search result ordering)
- **Promotion:** healthfulness of products marketed with promotion strategies other than pricing (e.g., title cards, banner advertisements, branded site content, user feedback, links to social media pages, retailer-generated shopping lists)
- **Usability:** prevalence of website tools or features that support an informed and equitable shopping experience for all customers (e.g., nutrition-related filters, online SNAP acceptance, and compliance with web accessibility guidelines)

This report is the first of its kind to identify and rank individual online retailer performance—thus providing information retailers can use to increase healthy food marketing, decrease unhealthy food marketing, and make healthy food choices online accessible for all consumers.

Retailers ranked by overall score and score breakdown by category[i]



[i] The maximum overall retailer score is 100. Category scores were equally weighted, with each category comprising 25% of the overall score. Price, placement, and promotion scores represent the percentages of products marketed using each of these strategies that were "healthy" or "neutral." The usability category scores represent compliance with Nutrition Facts, customer customization, and accessibility and inclusion criteria.

KEY RESEARCH FINDINGS

- **Overall, the online retail food environments at the top 11 revenue generating U.S. online grocery retailers each received a score 72% or lower (median: 61%).** This indicates poor performance with respect to pricing, placement, and promotion of healthier products, and poor usability of the retailers' websites. Retailers scored highest on website usability (median: 72%), followed by placement (median: 59%), promotion (median: 56%) and price (median: 56%).

- **Most marketing (72%) in the online retail food environment is for food and beverages that are not healthy.** 72% of products marketed through price reductions, 71% of products marketed through placement strategies, and 73% of products marketed through promotion strategies were not healthy.

- **There are many opportunities for retailers to improve the usability of the online food shopping experience.** With all retailers scoring 76% or lower in our assessment's usability category, there is much room for improvement in retailer website usability to make online grocery shopping accessible for all consumers, including people with disabilities, people with dietary restrictions or preferences, and people who participate in nutrition assistance programs. For example, retailers could more clearly and consistently label products, reduce delivery fees, and follow Web Content Accessibility Guidelines.

Based on the findings of the study, we recommend the following to improve the online food retail environment.

CORPORATE RECOMMENDATIONS

- **Shift online marketing practices (product, pricing, placement, and promotion) to incentivize healthier food and beverage purchases.** Retailers should increase offerings of healthier products, use price marketing strategies on healthy items, place healthy products in prominent locations in the virtual grocery store, and promote healthy products throughout the digital shopping experience to make it easier for customers to make healthy choices.

- **Structure cooperative marketing agreements (CMAs) to promote healthier products within food and beverage manufacturer's portfolios.** Retailers should work with food and beverage manufacturers to structure CMAs to promote healthier products instead of less healthy products within their product portfolios.

- **Improve online food accessibility for customers using SNAP.** Apply for United States Department of Agriculture (USDA) Supplemental Nutrition Assistance Program (SNAP) equal treatment waivers to waive delivery and service fees on SNAP purchases.[4] This will remove barriers to online grocery shopping and improve food access for customers participating in SNAP. Additionally, improve the user experience for customers using SNAP online by clearly disclosing SNAP acceptance and labeling SNAP-eligible items. Retailers could take similar measures as online Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) rolls out.

- **Support healthy purchases through customer customization.** Enable customers to find healthy products with nutrition rating systems (like FDA healthy designation) and customize their shopping experience based on their nutritional needs with nutrition-related filters when shopping online, such as to view only "healthy" foods or avoid "high in" foods.

- **Make online food shopping more accessible by meeting Web Content Accessibility Guidelines requirements and providing website translation.** Meeting web accessibility guidelines (e.g., text and background color contrast, content compatibility with assistive technologies) could make the online food shopping environment more accessible to people with disabilities. Providing website content in languages other than English can make the online food environment more accessible to non-English speaking customers.

POLICY RECOMMENDATIONS

- **Require accessible Nutrition Facts panels, ingredients, and allergens for all foods and beverages sold online.** Congress should pass legislation that requires accurate, legible, and easily accessible information for all foods and beverages at the online point of sale. The U.S. Food and Drug Administration (FDA) should issue guidance on best practices for online labeling and the U.S. Department of Agriculture (USDA) should issue regulations that require retailers participating in SNAP to provide complete product information. This would help support healthier and safer food choices, especially for people with food allergies and those managing diet-related health conditions.

- **Ensure that future federal labeling and marketing policies are inclusive of the online environment.** Labeling requirements that support healthier choices should apply to both in-store and online environments to impact all shoppers.

- **Establish retailer healthy placement standards in-store and online.** Congress and state/local governments should pass legislation requiring healthy placement practices (e.g., healthy checkout bills) for all retailers to make it easier for customers to avoid marketing and impulse purchases of less nutritious items and specify how these policies should apply online. The U.S. Federal Trade Commission (FTC) should issue guidance on best practices for healthy placement in online food retail, and USDA should create healthy placement standards for SNAP-authorized retailers.

- **Investigate how retailer marketing practices contribute to anti-competitiveness and pose a threat to consumer health.** The FTC should investigate the impact of marketing practices (e.g., CMAs, category captain arrangements) on competition and act to ensure fair competition while protecting consumers from the marketing of unhealthy products.

RESEARCH RECOMMENDATIONS

- **Pilot and evaluate healthy marketing interventions in the online retail food environment.** Researchers and food retailers should collaborate to co-design, implement, and evaluate healthy marketing interventions to identify strategies that can improve healthy purchases and food and nutrition security.

- **Conduct research with consumers to better understand the online shopping experience.** "Shop-along" research with consumers can complement this scorecard to provide a more comprehensive understanding of the online shopping experience, including impacts of personalized and targeted marketing. Focus groups or interviews with consumers can also identify barriers and facilitators of healthy online food purchasing and examine how these factors vary across sociodemographic groups.

CONCLUSION

The expansion of online grocery shopping presents an important opportunity to improve healthy food access. Our research results find that most products markted online using price, placement, and promotion strategies are not healthy, and there is opportunity to improve the usability and accessibility of the online food shopping experience. Policymakers, corporations, and researchers should leverage the unique opportunities for marketing that come with online grocery shopping to increase healthy food marketing, decrease unhealthy food marketing, and make healthy food choices online accessible for all.

Table of Contents

Glossary

Retail Industry Term	Definition
Cooperative Marketing Agreement (CMA)	A deal between retailer and manufacturers outlining the share of marketing costs, placement fees, and specifications for product display or promotion.[5]
Consumer Packaged Good (CPG) Companies	Companies that produce and sell products that need to be replenished regularly, e.g., food, beverages, clothes, toilet paper, and other household products.[6]
Banners	A group of stores owned by a single parent company.
Parent Company	Acompany that owns and controls the operations of one or more companies, known as subsidiaries (e.g., The Kroger Co. owns nearly 30 grocery banners including Kroger, Harris Teeter, and Fred Meyer).
Placement	Marketing strategies involving where a product is located (e.g., sponsored product recommendations, cross-promotions, search result ordering).
Pricing	Marketing strategies involving the cost to consumer of products (e.g., discounts, rewards, and time-limited deals).
Promotion	Marketing strategies that other than pricing and placement which make products more appealing to a consumer (e.g., title cards, banner advertisements, branded site content, user feedback, links to social media pages, retailer-generated shopping lists).
Trade Promotion Practices	A wide range of payments, typically spelled out in CMAs, that manufacturers make to retailers, including placement fees, payments for special seasonal promotions, two-for-one sales, and payments to be included in circulars and newspaper inserts.[5]

Introduction: Online Retail Food Environment

BACKGROUND

Three-quarters of Americans' calories come from food purchased at retailers, making grocery stores and the retail food environment key contributors to the diets and health of Americans.[1] As the food environment evolves, it is becoming more digitized.[2] The COVID-19 pandemic more than doubled sales in online grocery shopping in the U.S.,[3] and online grocery sales is projected to account for over 21% of total grocery sales in the U.S. by 2025.[2] The expansion of online grocery shopping presents new opportunities and challenges for improving food access and prioritizing healthy food marketing.

FOOD ACCESS

Online grocery shopping could improve food access for many different types of consumers. Online ordering and delivery can improve the purchasing experience for people who are time-constrained, lack access to transportation, or have a disability that makes in-person grocery shopping difficult.[7,8] These services could also make it easier for people who lack full-service grocery stores in their communities but live within the delivery range for a retailer to access healthy food.[9,8,10] Currently, online grocery shoppers are more likely to be ages 15-24, female, white, more educated, and wealthier than their counterparts.[11] Barriers to online grocery shopping include the additional costs that come with delivery and service fees, distrust of the food selection process by hired shoppers, lack of transparency and consumer control of the shopping experience, lack of online Supplemental Nutrition Program for Woman, Infants, and Children (WIC) acceptance, and limited access particularly in rural areas.[12,13] Further research needs to be done to know if shopping for groceries online can improve equitable food access, including identifying barriers to online grocery shopping. To reduce barriers to online grocery shopping, the federal government is working to expand the number of retailers that offer Supplemental Nutrition Assistance Program (SNAP) online.[14] The reach of online SNAP use is growing, with retailers in all 50 states and Washington, D.C. participating in the SNAP Online Purchasing Pilot, which was introduced in 2019.[15] As the pilot has expanded to include more states, online SNAP sales have also increased, with SNAP households making over 150 million purchases per year, totaling $10 billion in online redemptions.[16] In addition, the USDA Food and Nutrition Service (FNS) has proposed changes to modernize WIC, allowing WIC participants to use their benefits online.[17] Online WIC has the potential to create a more equitable online shopping experience.[18] Agencies in several states have received grants to implement online ordering for WIC participants, laying the groundwork for expanded access.[17]

USABILITY

Limited research explores the impact of website usability and information accessibility on the online grocery shopping experience. Usability refers to how effectively and efficiently users can understand, navigate, and interact with websites and tools.[19] This scorecard evaluates aspects of website usability as it could influence who can shop online and what products are selected. Customization tools, such as allergen and nutrition-related filters, product comparison tools, and the ability to customize what nutrition information is displayed, can all improve and tailor the online shopping experience to the consumer.[20] Features that increase website accessibility ensure the user experience of websites is equitable for all people, including those with disabilities (e.g., allowing users to change text size, sufficient color contrast), which can make the online shopping experience more inclusive.[21] Features that improve information accessibility, such as accurate and easy-to-find Nutrition Facts, ingredients, and allergen information and website content available in different languages, can make it easier for all consumers to shop for products that fit their needs. Additionally, acceptance of online SNAP and WIC benefits makes online grocery shopping more affordable for households with limited financial resources.

FOOD MARKETING

In the physical food retail environment, marketing of unhealthy products is widespread.[22] Big food and beverage companies enter Cooperative Marketing Agreements (CMAs) with retailers, allowing manufacturers to dictate where their products are placed and how they are promoted. These agreements allow food and beverage manufacturers to dominate the retail landscape, shifting the environment towards less nutritious options.[5] As more customers shop for groceries online, food marketing is migrating online. Whereas brick-and-mortar stores are physical environments strategically designed through aisles and displays to attract consumers to specific brands and food items, online platforms are more nimble environments with nearly infinite opportunities to enhance consumer advertising through various marketing strategies and personalized marketing experiences.[20] There are features of the online retail food environment that could be leveraged to promote health. For example, research suggests that shopping online may help consumers reduce impulse and unhealthy food purchases through factors such as the temporal delay between ordering and receiving grocery deliveries, the lack of physical presence and vividness of products, and online features that support meal planning.[23,24,7]

However, online platforms can also present challenges to consumers. A lack of regulation and transparency around products sold online can make it more difficult for consumers to make healthy food choices. For example, although federal law mandates that the Nutrition Facts panel and ingredient information appear on product packaging, this information is not always available, legible, accurate, or up to date for foods and beverages on online platforms.[25,26,27]

FDA has shown continued interest in the online food retail environment, but has not yet issued any guidance on this topic. In October 2021 FDA held a public meeting titled “FDA New Era of Smarter Food Safety Summit on E-Commerce: Ensuring the Safety of Foods Ordered Online and Delivered Directly to Consumers” and solicited public comment.[28] In 2023 FDA issued a Request for Information on Food Labeling in Online Grocery Shopping.[29] CSPI, along with many others, including some industry members, submitted comments to both dockets urging the FDA to issue guidance on how nutrition information should be displayed at the point of sale.[26] But FDA has yet to issue such guidance.

Consumers may also have concerns about data privacy and targeted marketing when shopping online. Food marketers use software to gather personalized data on customers, allowing them to analyze behavior patterns and tailor marketing to those individuals.[30,31] With targeted marketing technology, marketers can collect customers’ purchase and search histories, meaning that an individual's one-time purchase can lead to ongoing promotions—which can potentially reinforce unhealthy behaviors.[30]

Conversely, the online retail shopping experience also creates an opportunity to expand and diversify healthy food marketing strategies. Most of the current marketing is centered around foods of poor nutritional quality, while the marketing of staple food items—such as fruits, vegetables, and grains—is limited.[32] However, research has shown that consumers desire a healthier retail environment, including in the rapidly growing and relatively nimble digital food environment.[33,34]

The food industry uses various marketing strategies to influence consumer purchases within the retail environment. Key elements of the marketing mix—product, price, placement, and promotion—can play out differently in brick-and-mortar and online food retail environments and influence the healthfulness of customer purchases.[32]

Product

Food retailers make decisions about which products to stock and how much variety to offer. Research shows that consumers value variety, but too much choice can be overwhelming.[35] Customers also prefer healthier options and are often willing to pay more for them.[36]

Price

Price manipulation is an important tool for driving consumer food purchasing choices. Retailers use several strategies to reduce the price of products, including discounts, coupons, rewards, and time-limited deals.[32,20] In the online environment, these discounts can be tailored to the consumer's preferences, such as through personalized coupons or deals based on purchasing history.[20] Retailers also have more opportunities to feature discounts available online, as they can highlight more coupons in a digital than print format.[37] Price reductions are often paired with other marketing strategies in the online space, such as placement and promotion (e.g., product recommendations, banner advertisements).[32]

Placement

In brick-and-mortar stores, the in-store location of products can influence purchasing behaviors. Manufacturers largely control where retailers can place products on shelves, which products are at eye level, and which products to group together through CMAs.[5] Similar arrangements may apply to the digital grocery store and dictate how retailers use personalized placement strategies such as offering sponsored recommendations (e.g., exposure to sponsored, popular, seasonal, or best matched products), cross-promotion (i.e., suggesting sponsored complementary products), and search result ordering (e.g., sponsored products appearing before other products) online.[38,20,32]

Promotion

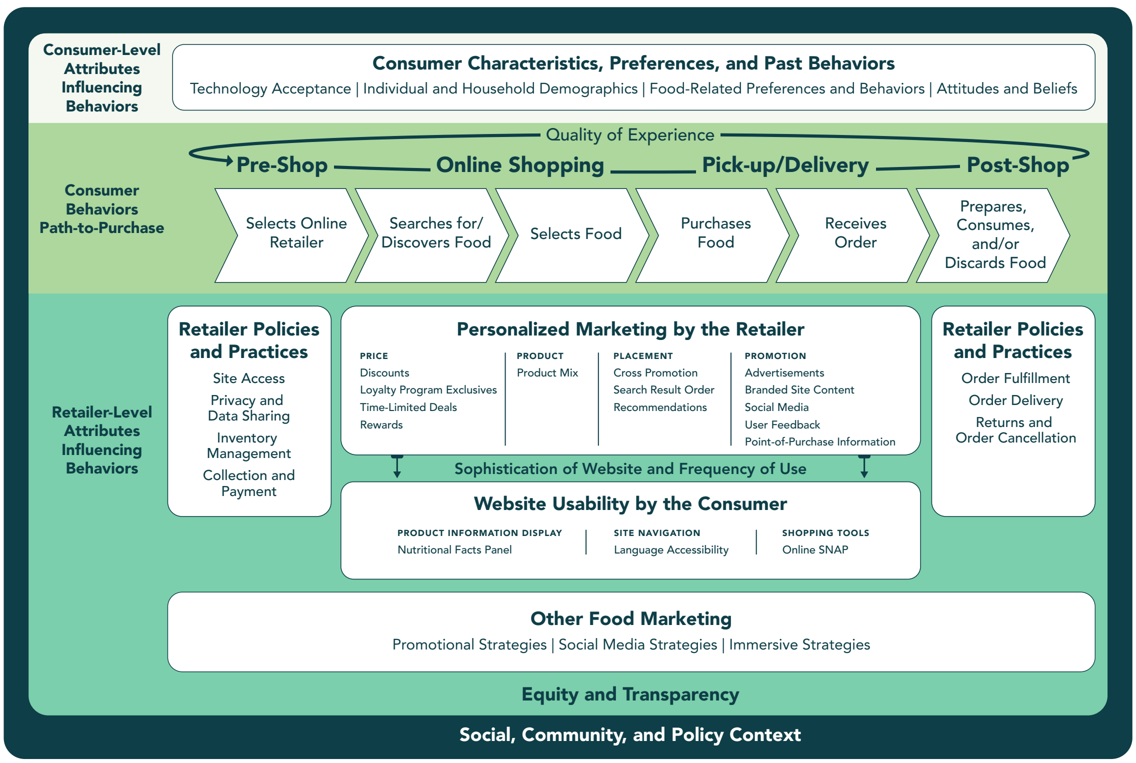
Food retailers use a wide variety of marketing strategies to promote products, many of which intersect with product, price, and placement strategies.[20,35] Brick-and-mortar stores use promotional strategies such as displays, signage, featured advertising, and point-of-purchase information (e.g., nutrition information).[35] These can include promotions targeting children, such as character licensing or using "fun" packaging designs.[35] Online retailers also use numerous promotional strategies, such as title card and banner advertisements, branded site content (e.g., branded imagery, recipes, and interactive content), user feedback (e.g., rating and reviews), links to social media pages, and retailer generated shopping lists.[20,32]

EXISTING RESEARCH AND GAPS

All major grocery retailers in the U.S. utilize online platforms to support consumer shopping preferences. Despite the growing use of online grocery platforms, there is limited research examining online food marketing practices—especially when compared to the substantial body of research on marketing practices in brick-and-mortar stores.[32] A systematic review assessing the healthfulness of online supermarkets highlighted the need for validated tools and standardized protocols that facilitate consistent analysis and comparison across retailers.[39]

Although several scorecards have been developed for assessing individual food retailers on different practices related to consumer health, including sustainability and toxicity of foods, none of them focus on online food marketing practices.[40-42] Some research has contextualized and examined general marketing practices in the online retail food environment. Khandpur et al.'s conceptual framework on how the online retail food environment influences food choices includes retailer-level attributes influencing consumer behaviors, with the key features relevant to and adapted for this study highlighted in Figure 1. Moran et al. were the first to develop and implement a methodology to assess marketing practices of online grocery retailers and found that most marketed products are of poor nutritional quality.[32] Another study by Maganja et al. analyzed marketing practices of the two largest Australian online supermarkets and found greater than 35% of food promotions to be unhealthy.[43] However, little is known about individual retailers' digital marketing and website usability practices in the United States. It is important to recognize retailers that perform well, call out those that perform poorly, and empower consumers to shop where healthy choices are made convenient.

Figure 1. Online retail food environment marketing and website usability and customization conceptual framework[i,ii]



i Modified format of "Consumer behavior in the online food retail environment" by Neha Khandpur et al. is licensed under CC BY 4.0. Modified format expands on aspects of website usability.
ii Sections outlined in red are the components we focused on in this study.

Healthy Online Retail Scorecard Objectives

The objective of this report is to assess the healthfulness of marketing in the online retail food environment and rank food retailers' performance based on their digital marketing practices and website usability. Our study adds to the growing body of research on the digital retail food environment by updating methods for assessing the healthfulness of online food marketing to align with the latest nutrition evidence and policies. Additionally, for the first time to our knowledge, our research operationalizes website usability in the online retail food space. In addition to building on the existing body of research on the online retail food environment, this report is the first of its kind to identify and rank individual retailer performance amongst the online food retailers in the U.S. that control the vast majority of the online retail food marketplace — thus promoting corporate accountability to increase healthy food marketing, decrease unhealthy food marketing, and make healthy food choices online accessible for all consumers.

This report builds on CSPI's 2020 Scroll and Shop report, a case study that assessed the marketing practices and healthfulness of online grocery platforms from six retailers in the Washington, DC region.[44] The current report updates and expands on the Scroll and Shop report with more rigorous methods to assess the national online retail marketing environment. This report also aligns with recommendations from CSPI's report, Recommendations to Promote Healthy Retail Food Environments: Key Federal Policy Opportunities for the Farm Bill, which highlighted the need to better understand current online retail marketing practices to inform federal policies.[45]

Methodology

We conducted standardized online shopping simulations (33 simulations in total; 3 for each retailer) to evaluate the marketing practices and usability of grocery retailers' online shopping platforms. We developed a priori scoring criteria to analyze the relative nutritional quality of foods and beverages marketed by retailers during the simulations and evaluate website performance against standards of usability.

RETAILER SAMPLE

In July 2023, we selected a sample of retailers from eMarketer's report of the leading six grocery retailers (Walmart, Amazon, Instacart, Kroger, Target, and Albertsons) in the United States accounting for 86.5% of grocery ecommerce sales in 2021.[46] We selected one or two of the top revenue-generating banners from each of these six retailers (only one banner was selected for Target, as the retailer only owns one online platform for its stores).[47,48,49] Our final sample included 11 banners accounting for more than 48.9% of U.S. grocery market share (in-store and online) (Table 1). When evaluating banners that sell items on both a third-party platform and their own platform, the assessment of marketing practices focused solely on their own platform. For instance, Kroger, which sells items on Instacart and kroger.com, was assessed based on its performance on the Kroger website. On the other hand, banners like Publix, which exclusively offer online shopping options (curbside, delivery, and pick-up) through Instacart, were assessed on the third-party platform.

Table 1. Sample of online food retailers*

Retailer[46]	Retailer online grocery market share (2021)[46]	Largest banners by revenue**	Online shopping platform	Banner grocery market share (in-store and online in 2021)[48]	Banner online revenue (in millions in 2022)[50]
Walmart	24.0%	Walmart (Walmart, Supercenter, Neighborhood Market) **	walmart.com/cp/food/976759	22.3%	$52,397
		Sam's Club	samsclub.com/c/grocery/1444	3.5%	$8,383
Instacart	21.5%	Publix[47]	instacart.com/store/publix/store-front	3.1%	$829
		Costco[47]	instacart.com/store/costco/store-front	6.3%	$10,455
Amazon	20.9%	Whole Foods	amazon.com/alm/storefront/ref=grocery_wholefoods?almBrandId=VUZHIFdob2xlIEZvb2Rz	1.0%	$138
		Amazon Fresh	https://www.amazon.com/fmc/storefront?almBrandId=QW1hem9uIEZyZXNo	Not Available	$3,061
Kroger	10.6%	Kroger (Kroger, Kroger Market-place)**[49]	Kroger.com	3.7%	$7,024
		Fred Meyer[49]	Fredmeyer.com	0.6%	$1,068
Target	5.4%	Target (Target, Super Target)**	www.target.com/c/grocery/-/N-5xt1a	5.5%	$20,001
Albertsons	4.1%	Safeway[48]	Safeway.com	2.3%	$2,957
		Albertsons[48]	Albertsons.com	0.6%	$971
Total	**86.5%**			**>48.9%**	**$107,284**

*Food retailers include supermarkets, super stores, and club stores.
**Some banners are consolidated due to sharing the same online platform.

Data collection

ONLINE SHOPPING SIMULATIONS

The design of online shopping simulations was informed by the online food retail environment conceptual framework developed by Khandpur et al.[20] and the methodology of Moran et al.[32] Data collection and entry took place from September 23, 2023 - April 9, 2024.

We conducted three shopping simulations for each retailer using the following steps:

1 Navigate to the retailer website in private browsing mode (i.e., Google Chrome's incognito mode) to prevent personal data from influencing the marketing content.

2 Generate a random zip code using a random zip code generator.

3 On the retailer website, select the retailer's store closest to the zip code. If there are no stores that appear when searching for the store in proximity to the zip code, use the random zip code generator to generate another zip code that is usable.

4 Complete the following steps on each of the following pages of the retailer website: homepage, first 5 promotional pages (e.g., specials, seasonal celebrations, brand pages), search results pages from searching 15 general food and beverage items identified based on USDA's list of most

frequently purchased commodity categories (bread, canned fish, entree, cheese, chips, canned corn, salad dressing, juice, bananas, cookies, frozen pizza, soda, cereal, canola oil, milk)[51], 9 department pages (bread & bakery, meat & seafood, dairy & eggs, breakfast cereal, snacks, beverages, produce, condiments, frozen), and the checkout page.

a Identify up to the first 15 products displayed on the page, including non-food items, marketed with price, placement, and promotion strategies by scrolling up and down the webpage, but not making additional clicks or scrolling within categories on the page.

b Record whether each item has a Nutrition Facts panel (NFP) that is available online as well as prominent and conspicuous (i.e., does not require any clicks on the product page to view).

c For each food/beverage, record the product type, name, link, marketing strategy used, ingredients list, first item in the ingredients list, saturated fat, sodium, and added sugars content.

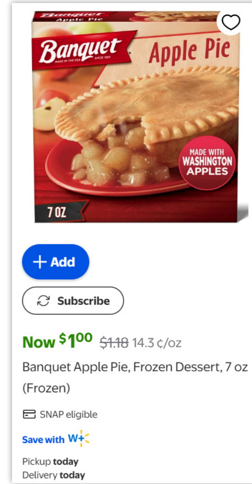
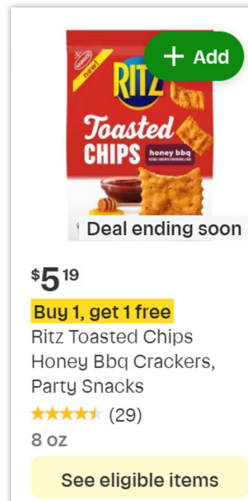
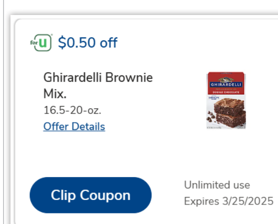
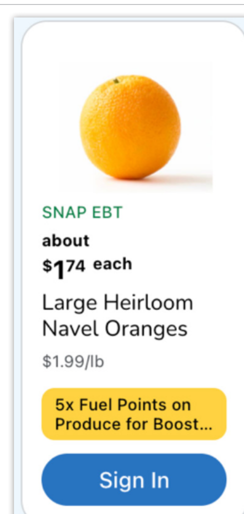
d When evaluating the search results pages, add the first featured item to the cart. These items are reviewed during analysis of the checkout page.

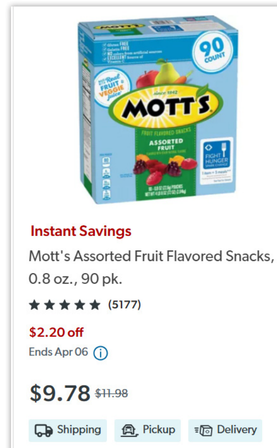
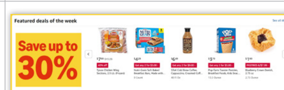
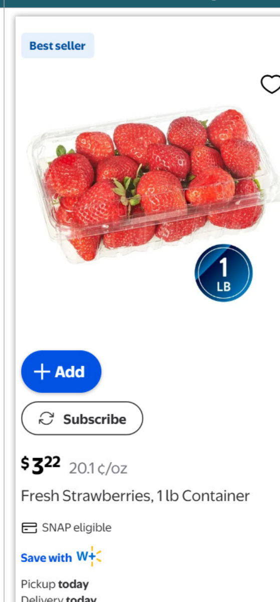
In addition to completing the three shopping simulations, we assessed each retailer website on customer customization and information accessibility and inclusion (Table 3).

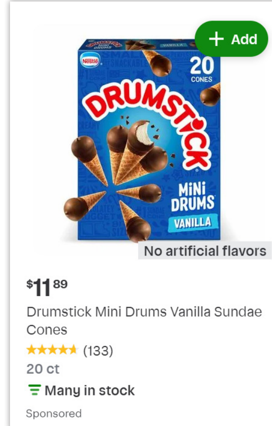
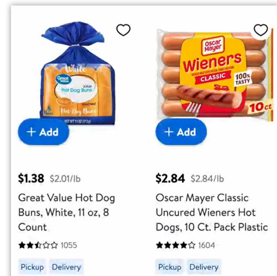
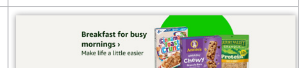
SCORECARD CATEGORIES AND COMPONENTS

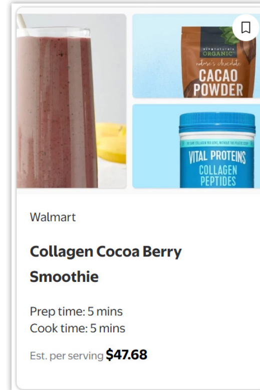
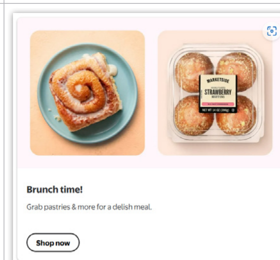
The scorecard assesses retailers based on their performance across four categories: price, placement, promotion, and usability (Table 2). These categories were developed to assess the healthfulness of the online food marketplace based on Khandpur et al.'s conceptual framework on the impact of the online food retail environment on consumer behavior.[20] The price category includes discounts, two-for-one deals, points or vouchers, loyalty program exclusive deals, markdowns, time-limited deals, and weekly flyer promotions. The placement category includes promotions for products that are retailer-recommended, sponsored, or cross-promotion items. The promotion category includes banner advertisements, title cards, branded product imagery, branded recipe or meal solutions, branded interactive content, promoted product swaps, or retailer-generated shopping lists.

Table 2. Scorecard categories and components: Online food marketing (price, placement, and promotion)

PRICE CATEGORY		
Component	**Definition**	**Example Image**
Discount	A reduced-price offer	
Two-for-one Deal	Any kind of buy one get one free deal	
Coupon	Discounts that can be redeemed at checkout	
Points or voucher	Accrual of rewards that can be redeemed for savings	

Loyalty program exclusive	Savings only for loyalty program members	
Time-limited deal	Special deals that are valid for a set period to incentive food purchase within a specific period of time	
Weekly flyer	Link of flyer showing discounted products of the week	
PLACEMENT CATEGORY		
Component	**Definition**	**Example Image**
Recommended	Products or categories grouped under headings (e.g., most popular, best match, featured) that are recommended by the retailer and can be instantly added to the shopping cart	

Sponsored	Any recommended product described as a sponsored or featured, or promoted via paid ads	
Cross-promotion	Marketing of complementary products	
PROMOTION CATEGORY		
Component	**Definition**	**Example Image**
Banner advertisement	Rectangular internet display advertising format driving visitors to a post-click landing page, featuring food or beverages	
Title card	Large panel imagery and text at the top of the page featuring foods or beverages, typically below page headers	
Branded product imagery	Branded product images are displayed on the site to illustrate grocery categories or departments	

Branded recipe or meal solution	Instructions to make a meal, recommended foods to eat together as a meal, or meal kits contain branded products	
Branded interactive content	Dynamic site content such as pop-ups, splash pages, videos, tutorials, or games containing branded products	
Promoted product swap	A similar product that is recommended as an alternative	
Retailer generated shopping list	Shopping lists or carousel of items recommended by the retailer that can be easily added to cart	

The scorecard also assesses three components of usability: availability and accessibility of NFPs, customer customization, and information accessibility and inclusion (Table 3).

Table 3: Scorecard categories and components: Website usability

USABILITY CATEGORY		
Component	**Subcomponents**	**Criteria**
Nutrition Facts	Nutrition Facts panel present	Nutrition Facts panels include saturated fat, sodium, and added sugar information available on the product page
	Nutrition Facts panel prominent and conspicuous (i.e., the user does not have to navigate to the Nutrition Facts panel with any clicks)	Nutrition Facts panels don't require extra navigation (i.e., any clicks) to access the Nutrition Facts panel
Customer customization	Presence of shopping tools that increase the convenience of product search and selection for nutritious items	Nutrition classification system that rates and tags products based on nutritional value (e.g., Guiding Stars, Opt Up, Great for You)
		Allergen filters (e.g., nut-free, egg-free, shellfish-free)
		Nutrition-related filters (e.g., low sodium, no added sugar, low fat)
		Preferred attribute filters (e.g., gluten-free, vegan)
Information accessibility & inclusion	Practices to support customers using Online SNAP	Acceptance of EBT through website for curbside or delivery
		Guidance (e.g., instructions or tutorial) for using EBT online
		Waive delivery or service fees, discounted memberships, and other fee-related benefits for SNAP participants
	Accessibility	Statement on the website about commitment to accessibility
		Compliance with WCAG 2.0 (Level AA) according to a web accessibility evaluation tool[52]
		Website content available in languages other than English

The Nutrition Facts component evaluates the accessibility and availability of the NFP on the grocery platform. The number of products encountered during the online shopping simulations with NFP present as well as prominent and conspicuous (i.e., don't require any clicks) were recorded. Customer customization refers to the presence of website tools that improve the nutritional quality of the food purchased, including nutrition classification systems and nutrition-related search filters.

The information accessibility and inclusion component evaluate the presence of website features that increase the accessibility of online shopping for consumers, including people participating in nutrition assistance programs, people with vision or hearing loss, and people with intellectual and developmental disabilities. We assessed whether retailers accepted SNAP benefits for online grocery delivery or pickup, provided instructions on how to use SNAP EBT online, and offered fee-related benefits for SNAP participants. We also assessed whether retailers included a statement on the website committing to accessibility, complied with Web Content Accessibility Guidelines (WCAG) 2.0 Level AA, and offered website content in languages other than English. The World Wide Web Consortium developed WCAG to define the standards for ensuring that web content is accessible to everyone, including those with disabilities.[21,53] There are different versions and levels of compliance, with AA being the mid-range conformance level that many organizations strive to meet.[54] Compliance to WCAG 2.0 Level AA was determined by inputting the homepage of each website into AChecker,[52] an online accessibility evaluation tool that was selected due to its prior application in research.[55] AChecker returns a list of instances where a website does not meet WCAG 2.0 Level AA standards. Our study uses this list to assess whether retailers have fully met guidelines or not.

Analysis

PRODUCT NUTRITIONAL QUALITY

Foods and beverages recorded during each of the online shopping simulations were classified as "Individual or Mixed Products," "Main Dishes," "Meal Products," "Oil Products," or "Beverages." Within each food product category, they were categorized as "healthy," "neutral," or "unhealthy." The food product categories and saturated fat, sodium, and added sugars limits for products in each category to be considered "healthy" were adapted from the FDA's 2024 final rule to define "healthy" (see Appendix A).[56] In brief, we used the same categories as FDA except we combined "Individual Food Product" and "Mixed Product" into "Individual or Mixed Products" for easy implementation of category definitions, as it was not always easy to distinguish an individual product from a mixed product using FDA's definitions based on the Nutrition Facts panel and ingredients list. Some of FDA's food product categories had multiple subcategories with different nutrient limits to qualify as healthy (e.g., an Individual Dairy Product had a higher saturated fat limit than an Individual Fruit Product).[56] In such cases, we applied the highest limit of any subcategory to all products in that category. We also added a "Beverages" category that is not present in FDA's 2024 final rule. The limits for added sugars in the "Beverages" category align with CSPI's recommended Healthy Checkout standards[57] and the limits for saturated fat and sodium align with FDA's definitions for what makes a product high in or low in those nutrients.[58]

In addition to setting nutrient limits, the final rule uses a food group-based approach that requires food products to contain a certain amount of food (a "food group equivalent") from at least one of the food groups recommended by the Dietary Guidelines, 2020-2025 (e.g., a healthy vegetable product must contain at least ½ cup equivalent of vegetables).[56] Since we are unable to determine food group equivalents without additional manufacturer data, we used a first ingredient approach. We considered a product "healthy" if it was below its product category cutoff for saturated fat, sodium, and added sugars content (Table 4) and had one of the following as its first ingredient: fruit, vegetables, nuts, seeds, legumes, lean protein, dairy, or whole grains (see Appendix A for more detail). We considered Individual or Mixed Products, Oil Products, and Beverages to be "unhealthy" if they contained 20% Daily Value (DV) or more of saturated fat, sodium, or added sugars per serving because FDA considers foods with 20% DV or higher of a nutrient to be "high" in those nutrients.[58] We considered Main Dishes and Meal Products to be "unhealthy" (a category not defined by FDA) if they contained 50% DV or more of saturated fat, sodium, or added sugars per serving because FDA defines these categories as larger in size than individual foods or mixed products. Products that fell between healthy and unhealthy cutoffs were considered "neutral."

Items that were within the healthy %DV cutoffs but did not have fruit, vegetables, nuts, seeds, legumes, lean protein, dairy, or whole grains as the first item in their ingredients list were also considered "neutral."

Table 4. Healthy and unhealthy nutrient cutoffs for food and beverage items

	Healthy (%DV)	Neutral (%DV)	Unhealthy (%DV)
Individual & Mixed Items			
Saturated Fat	≤10	>10 and <20	≥20
Sodium	≤15	>15 and <20	≥20
Added Sugars	≤10	>10 and <20	≥20
100% Oil			
Saturated Fat	≤20% of total fat	--	>20% of total fat
Sodium	0	>0 and <20	≥20
Added Sugars	0	>0 and <20	≥20
Oil-based Spreads			
Saturated Fat	≤20% of total fat	--	>20% of total fat
Sodium	≤10	>10 and <20	≥20
Added Sugars	0	>0 and <20	≥20
Oil-based Dressings			
Saturated Fat	≤20% of total fat	--	>20% of total fat
Sodium	≤10	>10 and <20	≥20
Added Sugars	≤2	>2 and <20	≥20
Main Dish Entrees			
Saturated Fat	≤15	>15 and <50	≥50
Sodium	≤20	>20 and <50	≥50
Added Sugars	≤15	>15 and <50	≥50
Meal			
Saturated Fat	≤20	>20 and <50	≥50
Sodium	≤30	>30 and <50	≥50
Added Sugars	≤20	>20 and <50	≥50
Beverage			
Saturated Fat	≤5	>5 and <20	≥20
Sodium	≤5	>5 and <20	≥20
Added Sugars	0	<0 and <20	≥20

Some products are exempt from being required to have NFP, such as spices, raw fruits and vegetables, alcoholic beverages, and unpackaged bakery items. Spices and raw fruits and vegetables were considered healthy. All alcoholic beverages were considered unhealthy. Unpackaged bakery items, infant formula, and dietary supplements were excluded from analysis. Marketed non-food-or-beverage items were also excluded from analysis.

RETAILER SCORING

The price, placement, and promotion categories and their component scores are calculated from the percentage of products marketed in each category that were "healthy" or "neutral," averaged across the three shopping simulations. For example, averaging across three shopping simulations, 29% of the products marketed with at least one pricing strategy (i.e., component) at Albertsons were categorized as healthy, while 27% were categorized as neutral. This added up to a score of 56% in the price category for Albertsons.

The usability category score is based on three components: NFP, customer customization, and information accessibility and inclusion. A retailer's NFP score is the average of 1) the percentage of products for which the NFP was present and 2) the percentage of products for which the NFP was prominent and conspicuous, further averaged across the three shopping simulations. For example, at Amazon Fresh, the NFP was present 100% of the time and prominent and conspicuous 0% of the time, resulting in a Nutrition Facts score of 50%. Customer customization and information accessibility and inclusion scores are determined by the percentage of criteria met. For example, Albertsons met three out of the four customer customization criteria and three out of the six information accessibility and inclusion criteria, receiving a score of 75% in customer customization and 50% in information accessibility and inclusion. Each of the three factors contribute equally to the usability score, representing a third of the total usability score. The maximum usability score is 25 points because it accounts for 25% of the total retailer score, equally weighted with the other three categories of the overall retailer score.

The four scorecard categories (price, placement, promotion, usability) and their components were equally weighted and summed to get the retailer score. The maximum overall retailer score is 100% with higher percentage scores reflecting greater compliance with the marketing and usability scoring criteria. Medians were calculated for all scores, and data analysis was completed using Excel. The scorecard data collection and analysis and scoring methodology were peer-reviewed by external experts in the field. Three external reviewers reviewed our methodology and agreed that 75% of the scores should be focused on marketing (price, placement, and promotion) and 25% for usability, with equal weighting within categories.

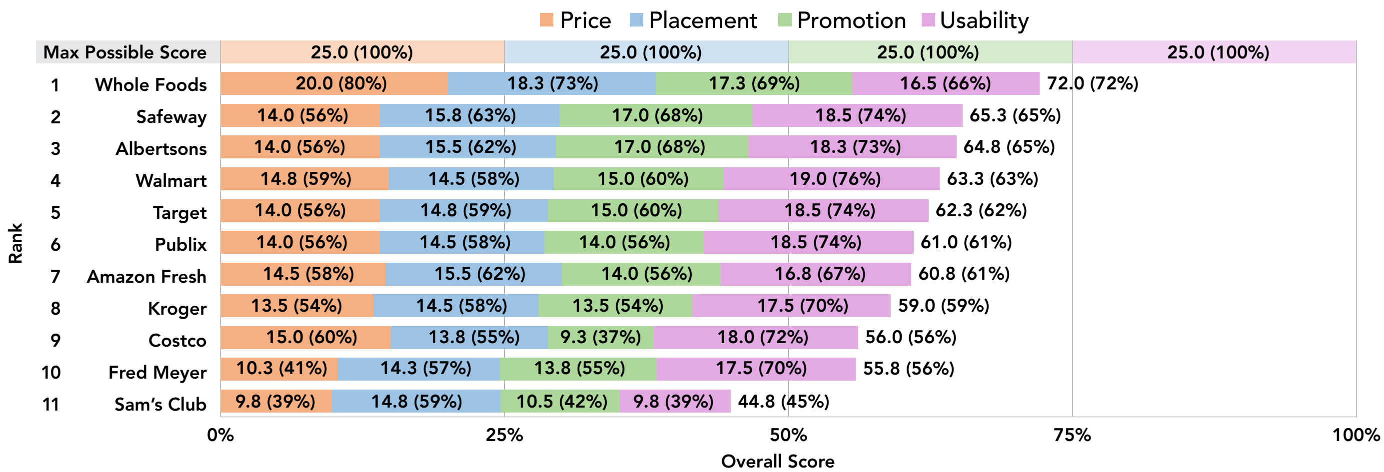
Results

Retailer overall scores ranged from 45% (Sam's Club) to 72% (Whole Foods) (Figure 2), and the median retailer score was 61%. Detailed tables calculating individual retailer category scores are available in Appendix B. Retailers scored highest on website usability (median: 72%), followed by placement (median: 59%), promotion (median: 56%) and price (median: 56%).

The proportion of foods marketed using pricing strategies that were "healthy" or "neutral" ranged from 39% (Sam's Club) to 80% (Whole Foods), and the median was 56% across retailers (Figure 3). The proportion of price marketing that was "healthy" ranged from 18% (Sam's Club) to 45% (Whole Foods), and across retailers, 28% (SD: 7.1) of price marketing was for products that were "healthy". Detailed tables showing the breakdown of components of each retailer's price score are available in Appendix B.

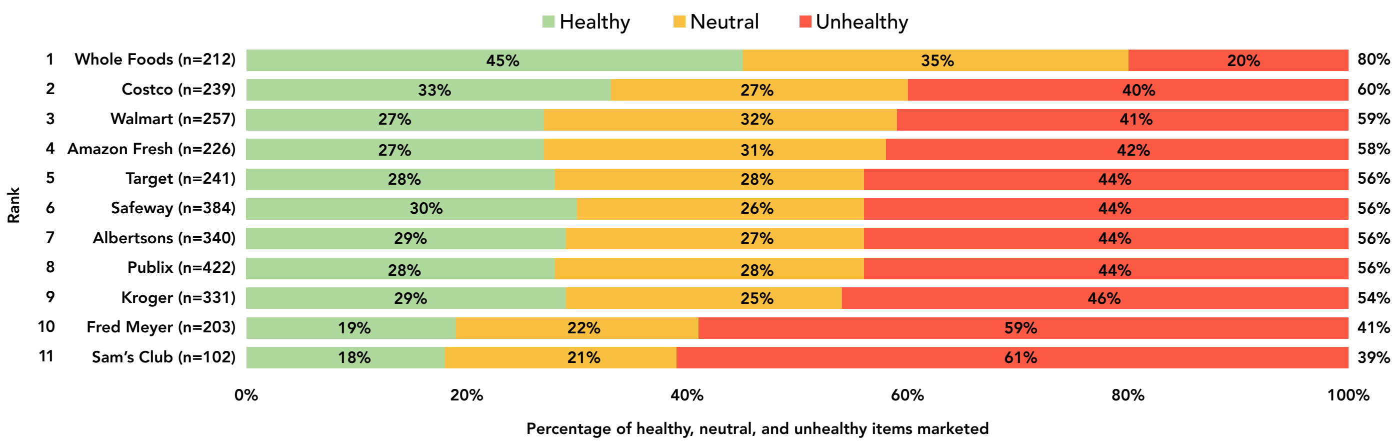
The proportion of foods marketed using placement strategies that were "healthy" or "neutral" ranged from 55% (Costco) to 73% (Whole Foods), and the median was 59% across all retailers (Figure 4). On average, 29% (SD: 4.1) of products marketed using placement strategies were "healthy." Detailed tables showing the breakdown of components of each retailer's placement score are available in Appendix B.

Figure 2: Retailers ranked by overall score and score breakdown by category[i]



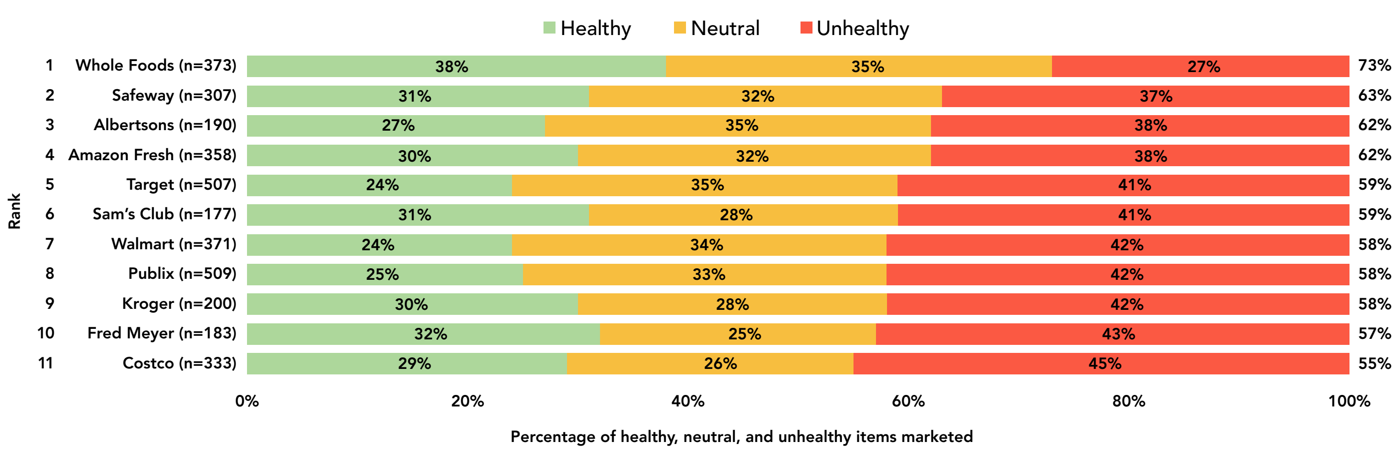
[i] Category scores were equally weighted, with each category comprising 25% of the overall score. Price, placement, and promotion scores represent the percentages of products marketed using each of these strategies that were "healthy" or "neutral." The usability category scores represent compliance with Nutrition Facts, customer customization, and accessibility and inclusion criteria.

Figure 3: Retailers ranked by price category score[i]



[i] Price category scores were calculated using the summed percentages of "healthy" and "neutral" products for each retailer.

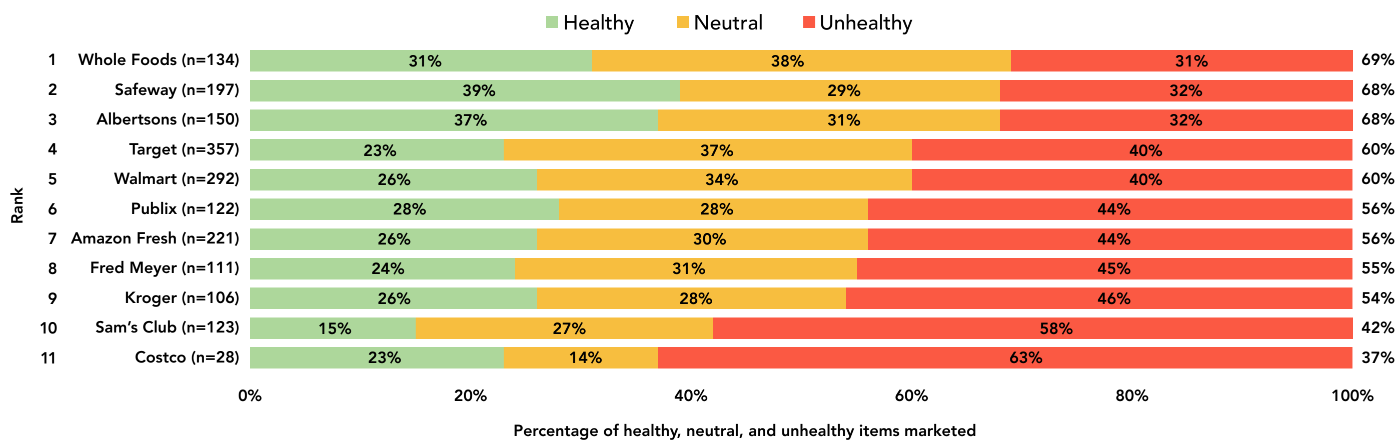
Figure 4: Retailers ranked by placement category score[i]



[i] Placement category scores were calculated using the summed percentages of "healthy" and "neutral" products for each retailer.

The proportion of foods marketed using promotion strategies that were "healthy" and "neutral" ranged from 37% (Costco) to 69% (Safeway and Whole Foods), and the median was 56% across retailers (Figure 5). Across retailers, an average of 27% (SD: 6.7) of promotion marketing was healthy. Detailed tables showing the breakdown of components of each retailer's promotion score are available in Appendix B. Two retailers (Safeway and Albertsons) had the highest proportion of their promotion marketed products categorized as healthy, whereas the remaining nine retailers used promotion marketing for products that were more commonly categorized as neutral or unhealthy.

Figure 5: Retailers ranked by promotion category score[i]

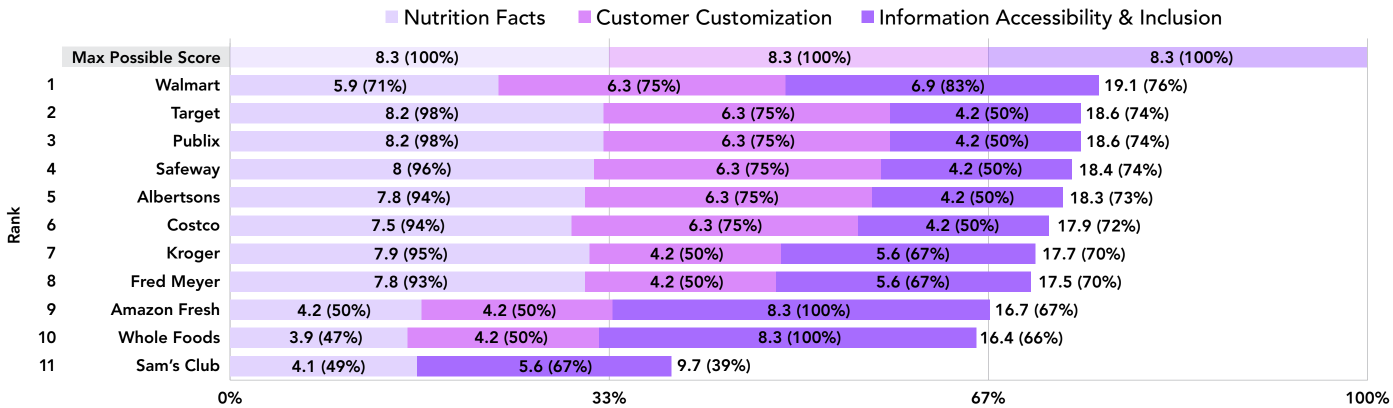


[i] Promotion category scores were calculated using the summed percentages of "healthy" and "neutral" products for each retailer.

Retailer website usability scores ranged from 39% (Sam's Club) to 76% (Walmart, Figure 6). Retailers in the sample received a median retailer score of 72%. Figure 6 depicts retailers ranked by usability score. Detailed tables depicting the breakdown of components of each retailer's usability score are available in Appendix B. When comparing Nutrition Facts, customer customization, and information accessibility and inclusion, retailers scored highest on Nutrition Facts (median: 93%), followed by customer customization (median: 75%)—with Sam's club scoring a 0 on customer customization—and lowest on information accessibility and inclusion (median: 67%).

On average, 98% of products evaluated from each retailer had a NFP available. Some retailers received full scores on the Nutrition Facts components, while others (i.e., Whole Foods, Amazon Fresh, and Sam's Club) did not have prominent and conspicuous NFPs for nearly any products. All retailers in our sample accepted SNAP online, but only four retailers waived online fees for SNAP participants. Five retailers had websites in compliance with WCAG Level AA, and three retailers had website content available in non-English languages. Only Kroger and Fred Meyer included a nutrition rating label (i.e. Opt Up), and all retailers except for Sam's club allowed customers to filter search results with nutrition-related filters, allergen filters or preferred attribute filters.

Figure 6: Retailers ranked by usability category score[i]



[i] Usability category scores were calculated based on the percentage of available as well as prominent and conspicuous Nutrition Facts panels and the presence of website features that promote customer customization and information accessibility. The maximum usability score is 25, as it represents 25% of the overall retailer score. There is no score for customer customization for Sam's Club because the banner scored a 0 on customer customization (scoring criteria in Table 3).

Discussion

In this simulation study of the online food retail marketing environment and usability of retailers' shopping platforms, we found that overall, retailers performed relatively poorly across all four scorecard categories. While the maximum possible total score for retailers was 100%, none managed to reach higher than 72% and the median total score for the 11 retailers was 61%. In our assessment of foods and beverages marketed using price, placement, and promotion strategies, we found that among the hundreds of products marketed by retailers in each marketing category, less than 30% of the marketing on average was for healthy foods or beverages. Correspondingly, most online retailer food advertisements were not for healthy items. [And in fact, an average of 44% of foods and beverages marketed through price, 40% marketed through placement, and 43% of products marketed through promotion were unhealthy]. Among the 11 retailers studied, 10 retailers marketed more unhealthy than healthy products using price and placement, and 8 retailers marketed more unhealthy than healthy products using promotion marketing.

All retailers scored 76% or lower in the website usability category. Improving website usability has important accessibility implications. For example, online SNAP acceptance particularly benefits consumers who may be more likely to face barriers to grocery store access.[59,11] Similarly, improving language accessibility could benefit consumers who are immigrants or non-English speakers, who may also face additional barriers to food security.[60] Finally, improving website accessibility by meeting Web Content Accessibility Guidelines (WCAG) Level AA guidelines can make the online shopping experience easier for people with disabilities, who may face mobility- or sensory-related barriers when shopping in stores.[53]

Some retailers did not have prominent and conspicuous NFPs for nearly any products. These findings are consistent with findings from a study by Sharib et al., which found that mandatory nutrition information was not present, accessible, and legible for most products (64.9%) on food retailer websites.[61] Our results contribute to the body of research highlighting the need for policies that require and regulate the disclosure of nutrition information online.[61]

The pervasiveness of unhealthy food marketing and lack of variation in online food retailer scorecard performance could be tied to cooperative marketing agreements (CMAs) between retailers and consumer packaged goods (CPG) companies that dictate the price, placement, and promotion of their products and tend to favor unhealthy items.[5] Large CPG companies could be mandating similar terms for online platforms across major retailers. If retailers are ceding control of their virtual shelves to a few dominant food and beverage manufacturers, it could create similar shopping experiences across online retail platforms, all of which make healthy choices difficult for consumers.

In addition, banners owned by the same parent company performed similarly in certain categories. For example, Safeway and Albertsons (both owned by Albertsons), and Fred Meyer and Kroger (both owned by Kroger) received similar scores for the placement promotion category. These results may indicate that CPG companies may dictate CMA terms at the parent company level, using similar online placement strategies across banners. Banners under the same parent company also performed similarly in the usability category, indicating that usability-related policies, such as online SNAP acceptance, may be determined at the parent company level, rather than the banner level.

Out of the 11 retailers we studied, nine are traditional grocery retailers and two are club stores. Both club stores, Costco and Sam's Club, scored among the lowest of all retailers (56%, and 45%, respectively). Both Costco and Sam's Club performed relatively poorly across most categories. They received the lowest scores on Promotion and scored low on Placement. Further research is needed to understand why the club store model has an overall less healthy online marketing environment. However, it may relate to the types of products these stores offer. Club stores tend to offer fewer perishable items and more packaged foods sold in bulk which tend to be higher in calories, sugar, and saturated fat and more likely to be scored unhealthy based on the nutrient criteria used in our study.[62]

Our research finds an overall unhealthy online retail food marketing environment, aligning with the existing literature.[32,43] Moran et al. evaluated the nutritional quality of products marketed with price, placement, and promotion in 21 major U.S. online food retailers using the NOVA food processing classification system and the Pan-American Health Organization (PAHO) Nutrient Profile Model.32 Compared to Moran et al.'s study, we found lower proportions of healthy products marketed through price (28% vs. 42%), placement (29% vs. 40%), and promotion (27% vs. 28%) strategies.[32] These differing results are likely due, in part, to different definitions of "healthy." Our study adapted the FDA definition of healthy, categorizing foods based on their %DV of saturated fat, sodium, and added sugars, and the first item in their ingredients list.[56] Future research that utilizes healthy and/or unhealthy food categories could consider adopting FDA's definitions for "healthy," especially for studies conducted in the U.S. context.

Although Moran et al. did not group usability-related features into one category, they measured some of the same features our study did. For example, they found that 24% of retailers included labels on or near a product (e.g., calorie labels, Guiding Stars, other nutrition labels) and 95% of retailers offered site filters (e.g., brand, nutritional attributes).[32] In our study, only Kroger and Fred Meyer included a nutrition rating label (Opt Up), and all retailers except for Sam's club allowed customers to filter search results with nutrition-related filters, allergen filters or preferred attribute filters. By providing filters of more variety and specificity, retailers can help customers compare products and make informed choices.

Existing research assessing the healthfulness of marketing in-store also finds a predominantly unhealthy food marketing environment.[22,38] However, studies use different criteria to define "healthy," making it difficult to compare the relative healthfulness of in-store and online marketing.

LIMITATIONS

One limitation arises from the scope of our sample. While our sample includes the parent companies that control nearly 90% of the online retail food marketplace, our study only analyzed the largest two banners for each parent company, accounting for around half of food retail sales. We captured data from a range of different banners, but our results may have varied if we had included additional banners in our study.

Another limitation stems from our approach to online shopping simulations. While we took measures to deidentify the online shopper when conducting shopping simulations to mitigate potential bias in results, this method removed the personalized aspect of online marketing. By removing these personalized elements, we may have missed aspects of how an online shopping experience laden with personalized and directed marketing based on consumer characteristics, such as browsing history, location, and demographics influence the online shopping environment. Furthermore, we focused on a select number of marketing instances and excluded others—such as those displayed after clicking on specific products—limiting our ability to capture the full range of marketing instances encountered during a shopping experience. The marketing encountered in our study may have also been impacted by the researchers not joining loyalty programs or participating in retailer memberships. Additionally, we only evaluated marketing instances encountered through the browser experience and did not evaluate marketing encounters on retailers' apps or through other digital forms (e.g., e-newsletters). For the price category, we collected data on price marketing practices, such as discounts and deals. However, we acknowledge that these discounts may not reflect the actual prices of products, which vary based on retailer, location, and week of purchase.

Finally, limitations arise from our approach to data analysis. For the three food marketing categories, retailers' scores reflect the proportion of healthy and neutral marketing instances, acknowledging the importance and practicality of shifting marketing away from unhealthy products into both categories. However, in doing so, some retailer scores and ranking might not reflect performance by healthy products alone. Additionally, we applied an adaptation of the FDA's final rule to define "healthy." Since we combined individual and mixed products, certain individual foods might have been misclassified as "healthy" compared to the FDA's definition. For instance, the FDA sets a 10% DV cutoff for sodium in individual products but a 15% DV cutoff for mixed products. We applied a 15% DV cutoff for sodium for both individual and mixed products which likely led to some individual foods being misclassified as "healthy." Similarly, while most individual foods under the FDA's definition have a 2% DV cutoff for added sugars, our use of a 10% DV cutoff—aligned with FDA's cutoffs for both individual and mixed products—may have resulted in more products being classified as "healthy" compared to the FDA's definition. Furthermore, our reliance on a first-ingredient approach instead of assessing food group equivalents as in FDA's healthy definition could have also affected the classification of foods. Lastly, while we assessed the healthfulness of marketing instances, we did not examine the underlying prevalence of healthy products stocked by each retailer. The availability of healthy products may influence the frequency of healthy marketing observed, suggesting that future research could consider this factor. Future research can also examine how often products are promoted with multiple types of marketing simultaneously to better understand the marketing strategies of CPG companies.

Corporate, policy, research recommendations

Given the pervasiveness of unhealthy food marketing in the online retail food environment, corporations, policymakers, and researchers should pursue the following recommendations to reduce unhealthy food marketing and increase healthy food marketing.

CORPORATE

Shift online marketing practices (product, pricing, placement, and promotion) to incentivize healthier food and beverage purchases. As demonstrated by the results of this research, most products marketed using price, placement, and promotion strategies are not healthy—which is consistent with previous research findings.[32] However, research has shown that consumers desire a healthier online food retail environment and feel the responsibility to provide one falls on retailers and policymakers.[33,34] Online food retailers could market more healthy than unhealthy products to incentivize consumers to purchase healthier products online, including:

- **Product.** Increase the availability of products that align with FDA's "healthy" claim.
- **Pricing.** Use price marketing strategies on healthier items to promote sales.
- **Placement.** Structure CMAs to increase placement of healthy products in prominent locations, such as at the top or edges of

pages, in the virtual grocery store. Allow customer customization to adjust product placement based on dietary-related information.

- **Promotion.** Promote healthy products throughout the digital shopping experience, including healthy swaps, recipes, shopping lists, etc.

By shifting the mix of products marketed in the online environment to be healthier, retailers can better meet their consumers' needs while increasing accessibility to healthy food and still preserving revenue streams from marketing.

Structure cooperative marketing agreements (CMAs) to promote healthier products within food and beverage manufacturers' portfolios. CMAs are contracts between manufacturers and retailers that dictate in-store and digital marketing of food and beverage products.[5] CMAs are an important part of the retail business model—retailers charge manufacturers large sums of money for the prominent placement and promotion of their products.[5] However, research shows that increases in sales are similar for both healthier and less healthy products in most food groups marketed using in-store placement promotions.[22] Therefore, retailers could still remain profitable while working with food and beverage manufacturers to structure CMAs to promote healthier products within their product portfolios.

Improve online food accessibility for customers using SNAP. SNAP is an essential USDA program that supports healthy food access for people with lower incomes. In 2023, 42.2 million Americans participated in SNAP.[63] The SNAP online purchasing pilot led to an 8% reduction in the prevalence of food insufficiency relative to mean food insufficiency.[64] However, participants have cited delivery and service fees as key barriers to using online SNAP.[45] Large retailers should consider applying for USDA SNAP waivers that would allow them to waive or reduce online delivery and service fees for SNAP purchases. Waiving SNAP delivery and service fees can attract new customers, boost online transactions, and increase both SNAP and non-SNAP spending at participating stores.

Additionally, retailers could improve the user experience for customers using SNAP by clearly disclosing online SNAP acceptance (e.g., on the homepage) and labeling EBT-eligible items. Retailers could also include information on their websites on how to use SNAP/EBT to make a purchase and split payment purchases. By making their websites more user-friendly, retailers could attract more customers who use SNAP and increase food accessibility for this population.

Align retailer healthy marketing practices with FDA nutrition initiatives. The FDA released a final rule[56] in 2024 to update the definition of "healthy" for use in food labeling and also proposed a front-of-package (FOP) nutrition labeling system in January 2025 to help consumers easily identify foods that are high in added sugars, sodium, and saturated fats.[66] These labeling efforts can help empower

Instacart offered free delivery and pickup for three months for EBT purchases in 2021.[65]

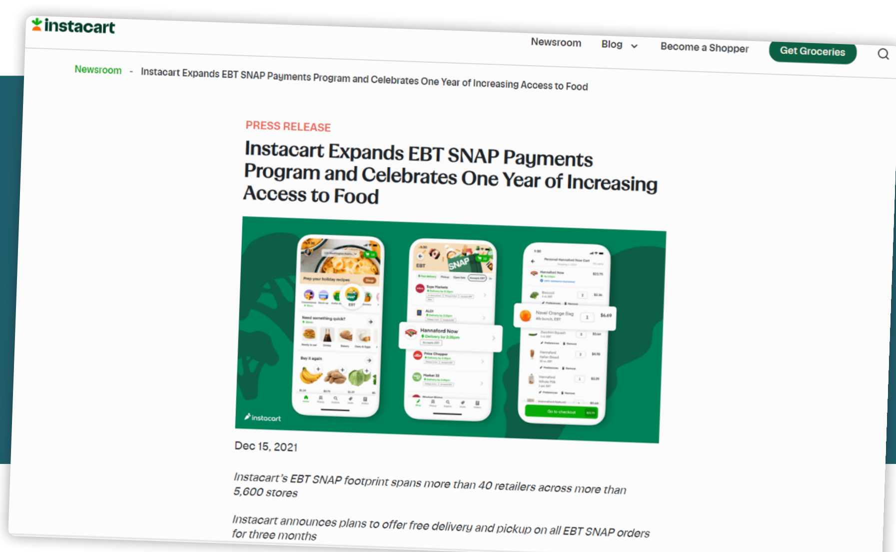
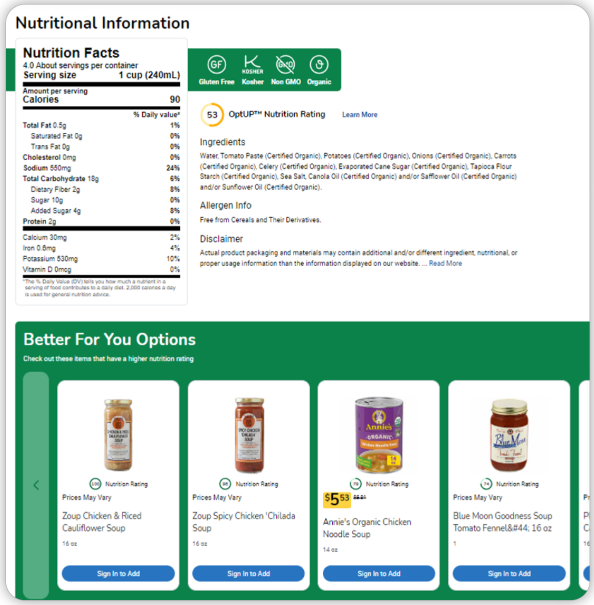


Photo: Instacart.com.

consumers to make healthier choices, and retailers could support them by ensuring these labels are prominently displayed on applicable items at the online point of sale and aligning their online and in-store marketing practices with these FDA labels (i.e., increasing marketing of products that qualify for the "healthy" designation and decreasing marketing of products with a "high in" FOP designation). Retailers could also create "FDA Healthy" food aisles and develop filters that consumers can apply when shopping online to view only "healthy" foods or avoid "high in" foods. Using such filters would be an incentive for industry to adopt the voluntary Healthy label.

Ensure compliance with Web Content Accessibility Guidelines (WCAG) Level AA. Features that increase website accessibility for people with disabilities (e.g., low vision, hearing loss, intellectual or developmental disabilities) can make the shopping experience more inclusive.[53] Retailers should strive to meet WCAG Level AA guidelines by implementing features such as sufficient color contrast, allowing users to change text size, and including captions for all audio/video content. If meeting these guidelines, retailers could also include a statement on their website about their commitment to accessibility. This compliance would make the online food shopping environment more accessible to people with disabilities, a population that may particularly benefit from and prefer online shopping over in-store shopping.



Kroger and Fred Meyer use the OptUp nutrition rating system and explain to shoppers how the system works. These banners also recommend alternative product choices that have higher OptUp scores. Kroger has announced a partnership with Bitewell to enhance its OptUp scores with Bitewell's FoodHealth score which adds a layer of personalization.[69] For example, a protein bar might score an 88 for the general, healthy individual with the FoodHealth score but receive a score of 78 for someone with pre-diabetes due to its carbohydrate content.[70]

Instacart is developing nutrition-focused search filters that align with FDA's "healthy" standards.[67]

Support healthy purchases through shopping tools that allow customer customization. Shopping tools on product search pages can improve website usability and the overall online shopping experience for customers. Retailers could implement tools such as allergen filters (e.g., nut-free, egg-free, shellfish-free), nutrition-related filters (e.g., low sodium, no added sugar, low fat), and preferred attribute filters (e.g., gluten-free, vegan). When implementing nutrition-related filters, retailers should make sure that they accurately filter products based on FDA's definitions for nutrient content claims.[68] These tools can allow customers to modify product search results and placement to support healthier choices and purchasing of foods that meet dietary needs.

Improve website language accessibility. Providing website content in different languages can make online grocery shopping more accessible to customers who speak languages other than English. Retailers could allow customers to customize their shopping experience by providing more language options. This can help draw a wider audience to retailers' online spaces and enable non-English speaking customers to make informed food purchasing choices.

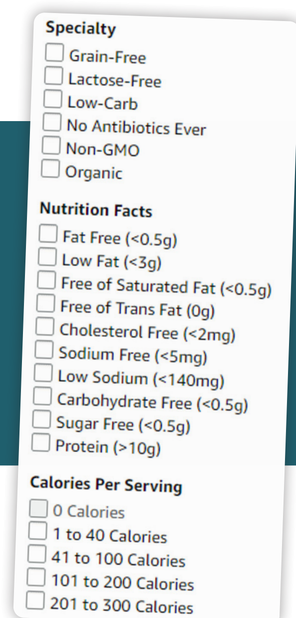
POLICY

Require accessible Nutrition Facts panels, ingredients, and allergens for all foods sold online. The Federal Food, Drug, and Cosmetic Act and FDA regulations require that the Nutrition Facts panel, ingredients lists, and allergen disclosures appear on physical food packages,[27,56] but the same information is not always available to online shoppers. When available, this information can be incomplete, difficult to access or read, or inaccurate. The lack of consistent, accurate information is a particular concern for people managing diet-related conditions or with food allergies. Congress should pass legislation mandating accurate, legible, and easily accessible Nutrition Facts, ingredients lists, and allergen disclosures for all foods and beverages at the online point of sale.[72] In the absence of new federal legislation, the U.S. Food and Drug Administration (FDA) should issue guidance on best practices for online labeling and the U.S. Department of Agriculture (USDA) should issue regulations making available, accessible online information a requirement for SNAP-authorized online retailers. This could affect many retailers, as about 262,000 U.S. food retailers accept SNAP.[16] However, legislation is preferable to avoid potential unintended consequences tied to retailer SNAP participation, such as retailers not accepting online SNAP payments to avoid compliance.

Ensure that future labeling and marketing federal legislation is inclusive of the online environment. As grocery shopping migrates online, policies aimed at supporting consumers in making healthier choices must consider both in-store and online settings. For example, the FDA's proposed regulation establishing a mandatory, standardized front-of-package nutrition labeling system will help consumers quickly identify foods with high levels of nutrients of concern. A final front-of-package labeling regulation and any subsequent guidance the FDA issues should include the online grocery marketplace, specifying that front-of-package labels should appear prominently at the online point of sale.

Establish retailer healthy placement standards in-store and online. It is hard for customers to make healthy choices when most foods marketed through product placement are unhealthy. This study found only 24% of products marketed through product placement were healthy. In brick-and-mortar retail environments, communities have passed local policies to shift the marketing mix of products in high traffic areas from unhealthy to healthy foods and beverages to make it easier for customers and their children to avoid marketing and impulse purchases of drinks and snacks high in sugar and salt. Berkeley[73] and Perris,[74] California have passed healthy checkout policies, which require large retailers to place only healthy foods and beverages in checkout aisles. Future policies should be considered at the local, state, and federal levels and specify how these requirements apply in the online setting. FTC should aid in this effort by issuing guidance for retailers on healthy food placement strategies and standards in brick-and-mortar stores and online. Another policy avenue for implementing healthy placement standards for retailers is through SNAP. SNAP retailers

Whole Foods and Amazon Fresh offer a variety of search nutrition-related filters.



Photos: Kroger.com (top), Amazon.com (bottom).

and the manufacturers that supply them benefit greatly from the billions of federal dollars in SNAP benefits that are redeemed at retailers. USDA could adopt healthy placement standards for SNAP-authorized retailers to locate nutritious foods in prominent locations in-store and online. This could also affect the majority of retailers, and legislation is preferable to avoid potential unintended consequences tied to retailer SNAP participation, such as retailers not accepting online SNAP payments to avoid compliance. Pilot projects to test and inform the implementation of these standards should be included in the Farm Bill.[45] This pilot phase could be especially helpful in ensuring both retailer feasibility and public health impact. By strengthening SNAP retailer requirements and supports to create a healthier retail food environment, SNAP participants, and everyone who shops at SNAP-authorized stores, could benefit.

Albertson's Sincerely Health App has a nutrition insights tool that helps shoppers see how well their grocery baskets align with USDA's My Plate.[71]

Investigate how retailer marketing practices contribute to anti-competitiveness and pose a threat to consumer health. Manufacturers dictate the retailer marketing environment through CMAs that include trade promotion practices, like slotting fees, and category captain arrangements. These anti-competitive marketing practices cede control of the retail food environment to manufacturers who place preferred brands of products in high-traffic locations around brick-and-mortar grocery stores and in key locations on online stores. The highly marketed products are often unhealthy products which may be more profitable for manufacturers and grocery banners and while making consumers and their children more vulnerable to impulse purchases that are detrimental to their health. In February of 2021, CSPI called on the Federal Trade Commission (FTC) to open an investigation into CMAs and category captain arrangements. In November 2021, as part of a broader investigation into supply chain disruptions,[75] the FTC asked retailers and manufacturers to provide the agency with internal confidential information related to category captains and other trade promotion practices. The study FTC released found the significant size of trade promotions warrants further study of their economic and anticompetitive impacts.[76] Completion of this investigation of anti-competitive and consumer harming marketing practices in the supermarket industry and any subsequent action warranted by the findings is essential to maintaining adequate competition and protecting consumers.

Establish a healthy food marketing recognition program for retailers. USDA currently utilizes recognition programs to incentivize voluntary changes to create healthier food environments. For example, the HealthierUS School Challenge is a voluntary, national awards program that recognizes schools for fostering more nutritious choices and increased physical activity.[77] USDA could work with leading researchers and retailers to establish criteria for a healthy retail food marketing recognition program and publicize awards and the best practices emerging from the program. To ensure the viability of this program, Congress should appropriate funds for retailer engagement, technical assistance, and monitoring.

OTHER POLICY RECOMMENDATIONS

Implement online WIC. Over six and a half million people participated in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in 2023.[78,79] Participating in the WIC program through online purchasing is not yet widely available, though it may be especially helpful to WIC participants

Photo: Albertsons.com.

because pregnancy and caring for small children present challenges to shopping in person. Using WIC benefits online is not allowed under current program rules. However, the 2021 American Rescue Plan Act gave USDA the authority to issue waivers relaxing these regulations, and USDA has awarded funding to state agencies to participate in WIC online purchasing pilots.[17,80] USDA should modernize WIC and allow online purchasing nationwide by finalizing its February 2023 proposed rule.[81] Additionally, retailers should ensure a user-friendly experience for customers using WIC by clearly disclosing online acceptance and labeling WIC-eligible items as online WIC rolls out.

Require opt-in consent to share information with third parties for marketing purposes.

Online platforms collect information on users' browsing activity and identity, which is then used to create detailed individual profiles for advertising purposes. It can be hard for customers to make healthy choices when shopping for groceries online if they are seeing highly personalized ads for unhealthy foods online based on their personal information. Some state laws require online platforms to clearly disclose what information is shared with third parties and for what purposes and allow users to opt-out of the sale or sharing of their online data.[82-95] Online platforms, including grocery platforms, should be required to disclose what personal information is being collected, with whom it is being shared with, and for what purposes, and obtain users' opt-in consent to share their data for marketing purposes, instead of the sale and sharing of user data being the default. This could help protect shoppers from online marketing for unhealthy products based on their personal information and allow consumers to make an informed decision about whether they would be comfortable using a platform with their data being shared.

RESEARCH

Pilot healthy marketing (e.g., product, price, placement, promotion) interventions in the online retail food environment. A strong body of research demonstrates that healthy food marketing interventions can increase healthy food purchases and consumption in the brick-and-mortar environment.[96] However, limited healthy marketing interventions have been implemented and evaluated in the online space.[97,98] Food retailers and researchers should collaborate on a rigorous healthy marketing intervention that includes control and experimental online stores and evaluates key outcomes such as purchases and food and nutrition security. A pilot with retailer buy-in would be strengthened with a data sharing agreement and shared expertise on intervention design feasibility and scalability. Researchers external to the company would bring additional credibility and nutrition, marketing, and evaluation expertise to the pilot. Additionally, future pilots could investigate CMAs and trade promotion practices that incentivize manufacturers and retailers to prioritize healthier products by meeting nutrition standards and adopting healthy marketing strategies. These studies would fill a large research gap and identify effective strategies for promoting healthy choices in the digital grocery store.

Conduct research with consumers to better understand the online shopping experience.

Current research has focused on assessing the marketing practices of the online retail food environment, but to our knowledge, little to no research has been conducted with consumers in this area. The current study's processes do not fully replicate the typical online shopping experience, which utilizes personalized and targeted marketing. Researchers should further explore personalized and targeted marketing by conducting individual "shop-alongs" with online customers. Researchers could also conduct focus groups or interviews to collect in-depth, qualitative data to add to the evidence base on consumer barriers and motivators related to healthy online food purchasing.[33,99,12,100] For both types of studies, researchers could explore differences in the online shopping experience by factors such as SNAP participation, race and/or ethnicity, and geography to determine whether retailers are using marketing practices that disproportionately affect SNAP participants or other consumers.

Conclusion

The proliferation of online grocery shopping presents an important opportunity to improve healthy food access. Our research results find that most products marketed online using price, placement, and promotion strategies are not healthy and there is much opportunity to improve the usability and accessibility of the online food shopping experience. Policymakers, corporations, and researchers should leverage the unique opportunities for marketing that come with online grocery shopping to increase healthy food marketing, decrease unhealthy food marketing, and make healthy food choices online accessible for all.

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Appendix A: Determining healthy, neutral, or unhealthy products

Crosswalk of nutrient limits in FDA's 2024 final rule on "healthy" claims and nutrient limits used to define "healthy" in the Online Grocery Marketing Scorecard

FDA Food Product Category	"Healthy" Nutrient Limit (per RACC)			Online Grocery Marketing Scorecard Food Group	"Healthy" Nutrient Limit (per labeled serving)		
	Added Sugar (%DV)	Sodium (%DV)	Sat Fat (%DV)		Added Sugar (%DV)	Sodium (%DV)	Sat Fat (%DV)
Individual Food Products				Individual and Mixed Products[3]	10%	15%	10%
Vegetable Product	2%	10%	5%				
Fruit Product	2%	10%	5%				
Grain Product	10%	10%	5%				
Dairy Product	5%	10%	10%				
Protein Product							
Game meat, seafood, and egg	2%	10%	10%				
Beans, peas, and soy products	2%	10%	5%				
Nuts and seeds	2%	10%	5%[1]				
Mixed Product	10%	15%	10%				
Oil Product							
100% Oil	0%	0%	20% of total fat	100% Oil	0%	0%	20% of total fat
Oil-based spreads	0%	10%	20% of total fat	Oil-based spreads	0%	10%	20% of total fat
Oil-based dressing[2]	2%	10%	20% of total fat	Oil-based dressing	2%	10%	20% of total fat
Main Dish	15%	20%	15%	Main Dish	15%	20%	15%
Meal Product	20%	30%	20%	Meal Product	20%	30%	20%
				Beverage	0%	5%	5%

[1] Excludes saturated fat derived from nuts and seeds.
[2] Must contain at least 30% oil.
[3] We combined individual and mixed products for easy implementation of category definitions, as it was not always easy to distinguish an individual product from a mixed product using FDA's definitions based on the Nutrition Facts panel and ingredients list.

Crosswalk of food product category definitions in FDA's 2024 final rule on "healthy" claims and in the Online Grocery Marketing Scorecard

FDA Category	FDA Definition	Online Grocery Marketing Scorecard Category	Scorecard Definition
Individual Food Product	A product that is comprised entirely or almost entirely of one food group	Individual and Mixed Products	A product that weighs <6 oz or <170 grams per serving, according to the Nutrition Facts label
Mixed Product	A product similar in size to an individual food but containing more than one food group		
Main Dish	A product larger in size than an individual food or mixed product, intended to make a major contribution to a meal, weighs at least 6 oz per labeled serving, and contains at least 40 g of food from each of at least two food groups (grains, fruits and vegetables, dairy, protein) (21 CFR 101.13(m))	Main Dish	A product that contains at least one ingredient from at least two different food groups (grains; fruits and vegetables; dairy; protein; nuts, seeds, and legumes), according to the Ingredients List, and that weighs at least 6 oz or 170 g but less than 10 oz or 283 g per serving, according to the Nutrition Facts label
Meal Product	A product larger in size than a main dish product and "intended to comprise all of the food for a single eating occasion." Weighs at least 10 oz per labeled serving and contains at least three 40-g portions of food from at least two food groups (grains, fruits and vegetables, dairy, protein) (21 CFR 101.13(l))	Meal Product	A product that contains at least one ingredient from at least two different food groups (grains; fruits and vegetables; dairy; protein; nuts, seeds, and legumes), according to the Ingredients List, and that weighs at least 10 oz or 283 g per serving, according to the Nutrition Facts label
Oil Product	*Undefined, but subcategories include 100% Oils, Oil-based spreads, and Oil-based dressings*	Oil Product	A product where the first ingredient in the Ingredients List is an oil (e.g., coconut oil, avocado oil, soybean oil).
		Beverage	A product intended as a drink, such as water, plant-based dairy beverages, juice, soda, and energy drinks. Includes liquid drinks, drink mixes, tea bags. Excludes dairy beverages (e.g., milk) and coffee beans/grounds, which were considered Individual or Mixed Products.

Ingredients used to determine whether Individual & Mixed Products, Main Dishes, and Meal Products were "healthy" in the Online Grocery Marketing Scorecard

Food Group	Examples of ingredients considered "healthy"	Examples of ingredients *not* considered "healthy"
Fruit or vegetable	Whole fruits or vegetables Dried fruit or vegetables Fruit or vegetable purees Fruit or vegetable pastes Powdered or dried fruit or vegetables (e.g., dried potato flakes) Juice concentrates	
Nuts, Seeds, and Legumes	Whole, crushed, roasted, and ground nuts (e.g., almonds, cashews, peanut butter) Whole, blended, roasted seeds (e.g., sunflower seeds, flax, pumpkin seeds) Whole beans (e.g., garbanzo beans, kidney beans, black beans, soybean), bean flour (e.g., chickpea flour)	
Protein	Skinless poultry, seafood, bean or legume products (e.g., soy protein concentrates), at least 90% lean ground meats, lean cuts of beef (e.g., eye of round, top round, bottom round, round tip), top loin, top sirloin, and chuck shoulder and arm roasts), lean cuts of pork (e.g., pork loin, tenderloin, center loin) eggs	Processed meats (e.g., cold cuts, bacon), cuts of beef or pork that are not lean
Dairy	Milk, cream, cultured cream, cheese, milk protein (e.g., casein)	
Grain	Any grain with "whole" before it (e.g., whole grain wheat) Whole grains (e.g., corn, quinoa, brown rice, oats)	Refined flour (e.g., enriched wheat flour, wheat flour) Refined grains (e.g., white rice)
Beverages	Water 100% juice Coffee, Tea	Alcohol

Appendix B: Detailed score (broken down by category and component) by retailer

Albertsons Score	Price	Placement	Promotion	Usability	Total
	56%	**62%**	**68%**	**73%**	**65%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=306)	29	27	44	56
	2-for-1 Deal (n=0)	0	37	0	37
	Coupon (n=29)	28	0	34	28
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=5)	14	2	17	16
	Total Price (n=340)	**29**	**27**	**44**	**56**
Placement	Recommended (n=47)	29	34	38	63
	Sponsored (n=143)	26	36	38	62
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=190)	**27**	**35**	**38**	**62**
Promotion	Banner ads (n=40)	36	40	24	76
	Title card (n=34)	29	29	42	58
	Branded product imagery (n=75)	41	27	32	68
	Branded recipe or meal solution (n=1)	67	0	0	67
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=150)	**37**	**31**	**32**	**68**

	Usability Criteria		**Met**	**Unmet**	**Score (%)**
Usability	Nutrition Facts	NFP Available	97%	3%	94
		NFP prominent and conspicuous	92%	8%	
	Customer Customization	Nutrition classification system		x	75
		Allergen filters	x		
		Nutrition-related filters	x		

		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		50
		Online SNAP guidance	x		
		Waive online fees for SNAP participants		x	
		Accessibility statement	x		
		Compliance with WCAG Level AA		x	
		Website content available in non-English languages		x	
	Total Usability				**73**
Overall Score					**65**

Amazon Fresh's Score	**Price**	**Placement**	**Promotion**	**Usability**	**Total**
	58%	**62%**	**56%**	**67%**	**61%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=217)	27	31	42	58
	2-for-1 Deal (n=0)	0	37	0	37
	Coupon (n=5)	13	0	17	13
	Points or Voucher (n=4)	20	0	13	20
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=0)	0	0	0	0
	Total Price (n=226)	**27**	**31**	**42**	**58**
Placement	Recommended (n=254)	34	31	35	65
	Sponsored (n=104)	20	34	46	54
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=358)	**30**	**32**	**38**	**62**
Promotion	Banner ads (n=156)	27	30	44	57
	Title card (n=44)	22	34	44	56
	Branded product imagery (n=21)	30	18	52	48
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0

	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=221)	**26**	**30**	**44**	**56**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	100%	0%	50
		NFP prominent and conspicuous	1%	99%	
	Customer Customization	Nutrition classification system		x	50
		Allergen filters		x	
		Nutrition-related filters	x		
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		100
		Online SNAP guidance	x		
		Waive online fees for SNAP participants	x		
		Accessibility statement	x		
		Compliance with WCAG Level AA	x		
		Website content available in non-English languages	x		
	Total Usability				**67**

Overall Score					**61**

Costco's Score	Price	Placement	Promotion	Usability	Total
	60%	**55%**	**37%**	**72%**	**56%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=239)	33	27	40	60
	2-for-1 Deal (n=0)	0	0	0	0
	Coupon (n=0)	0	0	0	0
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=0)	0	0	0	0
	Total Price (n=239)	**33**	**27**	**40**	**60**
Placement	Recommended (n=110)	35	22	43	57

	Sponsored (n=217)	26	28	46	54
	Cross-Promotion (n=6)	21	34	11	55
	Total Placement (n=333)	**29**	**26**	**45**	**55**
Promotion	Banner ads (n=28)	23	14	63	37
	Title card (n=0)	0	0	0	0
	Branded product imagery (n=0)	0	0	0	0
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=28)	**23**	**14**	**63**	**37**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	96%	4%	90
		NFP prominent and conspicuous	83%	17%	
	Customer Customization	Nutrition classification system		x	75
		Allergen filters	x		
		Nutrition-related filters	x		
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		50
		Online SNAP guidance	x		
		Waive online fees for SNAP participants		x	
		Accessibility statement	x		
		Compliance with WCAG Level AA		x	
		Website content available in non-English languages		x	
	Total Usability				**72**

Overall Score		**56**

Fred Meyer's Score	Price	Placement	Promotion	Usability	Total
	41%	**57%**	**55%**	**70%**	**56%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=110)	25	30	46	55
	2-for-1 Deal (n=0)	0	14	0	14
	Coupon (n=90)	20	0	66	20
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=3)	7	0	27	7
	Total Price (n=203)	**19**	**22**	**59**	**41**
Placement	Recommended (n=183)	32	25	43	57
	Sponsored (n=0)	0	0	0	0
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=183)	**32**	**25**	**43**	**57**
Promotion	Banner ads (n=20)	18	8	74	26
	Title card (n=0)	0	0	0	0
	Branded product imagery (n=91)	25	34	40	59
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=111)	**24**	**31**	**45**	**55**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	100%	0%	93
		NFP prominent and conspicuous	87%	13%	
	Customer Customization	Nutrition classification system	x		50
		Allergen filters		x	
		Nutrition-related filters		x	
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		67

		Online SNAP guidance	x		
		Waive online fees for SNAP participants		x	
		Accessibility statement	x		
		Compliance with WCAG Level AA	x		
		Website content available in non-English languages		x	
	Total Usability				**70**
Overall Score					**56**

Kroger's Score	Price	Placement	Promotion	Usability	Total
	54%	**58%**	**54%**	**70%**	**59%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=259)	29	27	44	56
	2-for-1 Deal (n=0)	0	19	0	19
	Coupon (n=68)	28	0	53	28
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=4)	8	4	21	12
	Total Price (n=331)	**29**	**25**	**46**	**54**
Placement	Recommended (n=200)	30	28	43	58
	Sponsored (n=0)	0	0	0	0
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=200)	**30**	**28**	**42**	**58**
Promotion	Banner ads (n=26)	22	16	62	38
	Title card (n=0)	0	0	0	0
	Branded product imagery (n=80)	27	32	41	59
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=106)	**26**	**28**	**46**	**54**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	100%	0%	95
		NFP prominent and conspicuous	89%	11%	
	Customer Customization	Nutrition classification system	x		50
		Allergen filters		x	
		Nutrition-related filters		x	
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		67
		Online SNAP guidance	x		
		Waive online fees for SNAP participants		x	
		Accessibility statement	x		
		Compliance with WCAG Level AA	x		
		Website content available in non-English languages		x	
	Total Usability				**70**
Overall Score					**59**

Publix's Score	Price	Placement	Promotion	Usability	Total
	56%	**58%**	**56%**	**74%**	**61%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=312)	30	32	38	62
	2-for-1 Deal (n=106)	20	0	62	20
	Coupon (n=0)	0	18	0	18
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=4)	36	40	24	76
	Total Price (n=422)	**28**	**28**	**44**	**56**
Placement	Recommended (n=36)	23	48	30	71
	Sponsored (n=473)	26	32	42	58
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=509)	**25**	**33**	**42**	**58**
Promotion	Banner ads (n=99)	32	28	40	60

	Title card (n=19)	9	48	42	57
	Branded product imagery (n=4)	18	0	49	18
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=122)	**28**	**28**	**44**	**56**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	98%	2%	98
		NFP prominent and conspicuous	98%	2%	
	Customer Customization	Nutrition classification system		x	75
		Allergen filters	x		
		Nutrition-related filters	x		
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		50
		Online SNAP guidance	x		
		Waive online fees for SNAP participants		x	
		Accessibility statement	x		
		Compliance with WCAG Level AA		x	
		Website content available in non-English languages		x	
	Total Usability				**74**
Overall Score					**61**

Safeway's Score	Price	Placement	Promotion	Usability	Total
	56%	**63%**	**68%**	**74%**	**65%**

Marketing strategy		Marketed product healthfulness			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=350)	30	26	44	56
	2-for-1 Deal (n=0)	0	23	0	23

	Coupon (n=34)	30	0	47	30
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=0)	0	0	0	0
	Total Price (n=384)	**30**	**26**	**44**	**56**
Placement	Recommended (n=60)	39	19	41	58
	Sponsored (n=247)	30	34	36	64
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=307)	**31**	**32**	**37**	**63**
Promotion	Banner ads (n=52)	32	35	33	67
	Title card (n=66)	41	32	27	73
	Branded product imagery (n=81)	42	23	34	65
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=197)	**39**	**29**	**32**	**68**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	98%	2%	96
		NFP prominent and conspicuous	93%	7%	
	Customer Customization	Nutrition classification system		x	75
		Allergen filters	x		
		Nutrition-related filters	x		
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		50
		Online SNAP guidance	x		
		Waive online fees for SNAP participants		x	
		Accessibility statement	x		
		Compliance with WCAG Level AA		x	

		Website content available in non-English languages		x	
	Total Usability				**74**
Overall Score					**65**

Sam's Club's Score	Price	Placement	Promotion	Usability	Total
	39%	**59%**	**42%**	**39%**	**45%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=35)	27	11	62	38
	2-for-1 Deal (n=0)	0	0	0	0
	Coupon (n=0)	0	0	0	0
	Points or Voucher (n=2)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=65)	13	27	60	40
	Weekly flyer (n=0)	0	0	0	0
	Total Price (n=102)	**18**	**21**	**61**	**39**
Placement	Recommended (n=101)	39	22	39	61
	Sponsored (n=76)	21	34	44	55
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=177)	**31**	**28**	**41**	**59**
Promotion	Banner ads (n=46)	9	20	71	29
	Title card (n=13)	33	30	37	63
	Branded product imagery (n=53)	17	27	56	44
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=11)	20	29	51	49
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=123)	**15**	**27**	**58**	**42**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	97%	3%	49
		NFP prominent and conspicuous	1%	99%	
	Customer Customization	Nutrition classification system		x	0
		Allergen filters		x	

		Nutrition-related filters		x	
		Preferred attribute filters		x	
	Information Accessibility & Inclusion	Online SNAP acceptance	x		67
		Online SNAP guidance	x	x	
		Waive online fees for SNAP participants	x		
		Accessibility statement		x	
		Compliance with WCAG Level AA	x		
		Website content available in non-English languages		x	
	Total Usability				**39**
Overall Score					**45**

Target's Score	Price	Placement	Promotion	Usability	Total
	56%	**59%**	**60%**	**74%**	**62%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=240)	28	29	44	57
	2-for-1 Deal (n=1)	17	0	17	17
	Coupon (n=0)	0	0	0	0
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Exclusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=0)	0	0	0	0
	Total Price (n=241)	**28**	**28**	**44**	**56**
Placement	Recommended (n=227)	29	29	42	58
	Sponsored (n=280)	20	40	40	60
	Cross-Promotion (n=0)	0	0	0	0
	Total Placement (n=507)	**24**	**35**	**41**	**59**
Promotion	Banner ads (n=231)	20	43	37	63
	Title card (n=0)	0	0	0	0
	Branded product imagery (n=126)	28	28	44	56
	Branded recipe or meal solution (n=0)	0	0	0	0

	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=357)	**23**	**37**	**40**	**60**

	Usability Criteria		Met	Unmet	Score (%)
Usability	Nutrition Facts	NFP Available	98%	2%	98
		NFP prominent and conspicuous	98%	2%	
	Customer Customization	Nutrition classification system		x	75
		Allergen filters	x		
		Nutrition-related filters	x		
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		50
		Online SNAP guidance	x		
		Waive online fees for SNAP participants		x	
		Accessibility statement	x		
		Compliance with WCAG Level AA		x	
		Website content available in non-English languages		x	
	Total Usability				**74**

Overall Score					**62**

Walmart's Score	Price	Placement	Promotion	Usability	Total
	59%	**58%**	**60%**	**76%**	**63%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=83)	20	32	48	52
	2-for-1 Deal (n=0)	0	0	33	0
	Coupon (n=0)	0	0	0	0
	Points or Voucher (n=11)	11	13	43	24
	Loyalty Program Exclusive (n=161)	31	31	37	62

	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=0)	0	0	0	0
	Total Price (n=257)	**27**	**32**	**41**	**59**
Placement	Recommended (n=180)	20	35	45	55
	Sponsored (n=188)	28	32	40	60
	Cross-Promotion (n=3)	0	100	0	100
	Total Placement (n=371)	**24**	**34**	**42**	**58**
Promotion	Banner ads (n=37)	17	23	60	40
	Title card (n=73)	24	36	40	60
	Branded product imagery (n=176)	27	35	37	62
	Branded recipe or meal solution (n=5)	13	11	9	24
	Branded interactive content (n=1)	100	0	0	100
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=292)	**26**	**34**	**40**	**60**

	Usability Criteria		**Met**	**Unmet**	**Score (%)**
Usability	Nutrition Facts	NFP Available	100%	1%	71
		NFP prominent and conspicuous	43%	57%	
	Customer Customization	Nutrition classification system		x	75
		Allergen filters	x		
		Nutrition-related filters	x		
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		83
		Online SNAP guidance	x		
		Waive online fees for SNAP participants	x		
		Accessibility statement	x		
		Compliance with WCAG Level AA		x	

		Website content available in non-English languages	x		
	Total Usability				**76**
Overall Score					**63**

Whole Foods' Score	Price	Placement	Promotion	Usability	Total
	80%	**73%**	**69%**	**66%**	**72%**
Marketing strategy		**Marketed product healthfulness**			
		Healthy (%)	**Neutral (%)**	**Unhealthy (%)**	**Score (%)**
Price	Discount (n=183)	44	35	20	79
	2-for-1 Deal (n=0)	0	0	0	0
	Coupon (n=0)	0	0	0	0
	Points or Voucher (n=0)	0	0	0	0
	Loyalty Program Ex-clusive (n=0)	0	0	0	0
	Time-limited deal (n=0)	0	0	0	0
	Weekly flyer (n=29)	49	31	20	80
	Total Price (n=212)	**45**	**35**	**20**	**80**
Placement	Recommended (n=229)	44	31	25	75
	Sponsored (n=141)	29	41	30	70
	Cross-Promotion (n=3)	26	7	0	33
	Total Placement (n=373)	**38**	**35**	**27**	**73**
Promotion	Banner ads (n=114)	31	39	30	70
	Title card (n=18)	30	38	32	68
	Branded product imagery (n=2)	33	0	0	33
	Branded recipe or meal solution (n=0)	0	0	0	0
	Branded interactive content (n=0)	0	0	0	0
	Promoted product swap (n=0)	0	0	0	0
	Retailer generated shopping list (n=0)	0	0	0	0
	Total Promotion (n=134)	**31**	**38**	**31**	**69**

	Usability Criteria		**Met**	**Unmet**	**Score (%)**
Usability	Nutrition Facts	NFP Available	93%	7%	47
		NFP prominent and conspicuous	2%	98%	
	Customer Customization	Nutrition classification system		x	50

		Allergen filters		x	
		Nutrition-related filters	x		
		Preferred attribute filters	x		
	Information Accessibility & Inclusion	Online SNAP acceptance	x		100
		Online SNAP guidance	x		
		Waive online fees for SNAP participants	x		
		Accessibility statement	x		
		Compliance with WCAG Level AA	x		
		Website content available in non-English languages	x		
	Total Usability				**66**
Overall Score					**72**

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