

SMILE! YOU'RE ON CAMERA:  
DATA COLLECTION IN FOOD RETAILING MARKETS\*

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**Abstract**

*We argue that new technologies that allow greater data collection in food retail markets allow companies to exploit consumers' personal data, potentially giving rise to new anticompetitive strategies. We look at the example of Amazon's "Just Walk Out" technology to show how the company replicates online surveillance into the real world. We pinpoint privacy and competitive concerns related to the technology and propose policy solutions to the issues raised. We show that exploitation of consumers' data is not inherently to the viability of this technology in the market.*

**Introduction**

We currently live under surveillance capitalism. The small device that we carry in our pockets tracks our geolocation, listens to our conversations, and stores precious bits of personal information. Although tracking is typically associated with the online environment, offline retailers have also identified the importance of personal data for their businesses.

The food retail market has emerged as the next frontier for data collection. As grocery stores try to recoup consumers that moved to online shopping, they are employing new technologies to simulate the online experience in the physical world. Loyalty programs have

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moved to mobile apps, allowing retailers to better track their customers. Shopper analytics and data mining are already pushing for personalized offers and tailored prices for customers.<sup>1</sup>

Amazon, the e-commerce behemoth, has taken the collection of shopper data to a new level. The company is pursuing a somewhat paradoxical goal: establishing a brick-and-mortar presence in the retail grocery space. Following the acquisition of Whole Foods in 2017,<sup>2</sup> the company launched Amazon Go,<sup>3</sup> a *real-life* grocery store, bringing together the power of the e-commerce giant with cutting-edge technology to provide a distinct grocery experience. Amazon's innovation in America's food retail market is its *Just Walk Out* (“JWO”) technology.<sup>4</sup> The company employs Internet of Things (“IoT”) technology to allow cameras to capture every move of the customer in the Amazon Go store and directly charge their Amazon account afterwards. The customer can literally just walk out of the store without checking out at a cashier. Most Amazon Go stores only allow customers with Amazon accounts to shop. There are a few locations in which

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<sup>1</sup> Sandy Skrovan, *Kroger's Analytics and Personalized Pricing Keep It a Step Ahead of its Competitors*, GROCERY DIVE (July 10, 2017), <https://www.grocerydive.com/news/grocery--krogers-analytics-and-personalized-pricing-keep-it-a-step-ahead-of-its-comp/534926/>, [<https://perma.cc/LNP8-TX9M>].

<sup>2</sup> SUBCOMM. ON ANTITRUST, COM. AND ADMIN. LAW OF THE S. COMM. ON THE JUDICIARY, 117TH CONG., INVESTIGATION OF COMPETITION IN DIGIT. MKTS. 264 (Comm. Print 2020) (“More recently, Amazon acquired Whole Foods, a strategic move to acquire both a competitor, and a new source of customer data. Amazon purchased Whole Foods at around \$13.7 billion, more than 10 times the cost of its second-most expensive acquisition. In addition to bolstering its position in the grocery market, Amazon's purchase of Whole Foods expanded its touch points with Prime members and gave it access to a unique set of customer information. Specifically, the deal enabled Amazon to monitor and compile data on how the same person shops both online and in person, data that is particularly useful for targeted advertising and promotional campaigns.”).

<sup>3</sup> Initial locations were small grocery and quick stop locations in densely populated areas; the first one opened in Seattle in 2016. See Nick Wingfield, *Amazon Moves to Cut Checkout Line, Promoting a Grab-and-Go Experience*, N.Y. TIMES (Dec. 5, 2016), (<https://www.nytimes.com/2016/12/05/technology/amazon-moves-to-cut-checkout-line-promoting-a-grab-and-go-experience.html>), [<https://perma.cc/5GPV-Y92N>].

<sup>4</sup> *Amazon Go - Frequently Asked Questions*, AMAZON, <https://www.amazon.com/b?ie=UTF8&node=16008589011> (“We created the world's most advanced shopping technology, so you never have to wait in line. Amazon Go was the first store to open with Just Walk Out Technology. Our checkout-free shopping experience is made possible by the same types of technologies used in self-driving cars: computer vision, sensor fusion, and deep learning. Just Walk Out Technology automatically detects when products are taken from or returned to the shelves and keeps track of them in a virtual cart. When you're done shopping, you can just leave the store. Later, we'll send you a receipt and charge your Amazon account.”).

customers can enter the store by dipping their credit card at the turnstile.<sup>5</sup> In the online environment, Amazon tracks consumer preferences by how they add and drop products in their shopping carts. In the offline world, alternatively, Amazon surveilles customer preferences by how they contemplate the aisle and reach for products on the shelves.

Amazon's new expansion strategy is to offer infrastructure and software as a service to retail businesses through JWO technology. This business plan is in line with Amazon's focus on its cloud business, which while representing a small share of revenue is the company's main profit center.<sup>6</sup> The data collected by Go stores and service agreements with retailers has the potential to create an exhaustive profile of the shopper. Armed with this information, Amazon can leverage its business position in other markets by better pinpointing the needs and preferences of consumers. An additional concern is the possibility of price discrimination based on the consumer's previous purchase history.

In summary, Amazon Go replicates online surveillance in the offline world. This paper tackles issues related to the potential harms caused by Amazon's conduct in the food retail market. **Section I** addresses how the development of new technology has made it possible for food retailers to surveil customers by collecting, storing, and exploring their personal data. **Section II** tackles the potential anticompetitive concerns related to personal data collection and issues related to privacy and data protection. The **conclusion** discusses policy solutions, drawing on existing

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<sup>5</sup> JUST WALK OUT, <https://justwalkout.com> (last visited Jan 19, 2022); *Starbucks Pickup and Amazon Go Collaborate To Launch New Store Concept in New York City*, STARBUCKS STORIES & NEWS, <https://stories.starbucks.com/press/2021/starbucks-pickup-and-amazon-go-collaborate-to-launch-new-store-concept-in-new-york-city> (last visited Jan. 19, 2022); Dilip Kumar, *Sainsbury's Becomes First International Third-Party Customer To Use Amazon's Just Walk Out Technology*, AMAZON (Nov. 29, 2021), <https://www.aboutamazon.com/news/retail/sainsburys-becomes-first-international-third-party-customer-to-use-amazons-just-walk-out-technology>, [https://perma.cc/75FR-697J].

<sup>6</sup> Alex Webb, *Amazon's Main Street Grocery Battle Isn't What You Think*, BLOOMBERG LAW (Dec. 6, 2021, 7:00 AM), <https://news.bloomberglaw.com/privacy-and-data-security/amazons-main-street-grocery-battle-isnt-what-you-think?context=search&index=1>, [ https://perma.cc/K87Z-L4L8].

antitrust and proposed data privacy legislation, and how recent developments in food retailing markets present a challenge to current policy.

### **I. AMAZON’S JWO TECHNOLOGY AS THE NEW FRONTIER FOR SURVEILLANCE CAPITALISM**

Surveillance capitalism is the commodification of experience for economic benefit. Shoshana Zuboff’s *The Age of Surveillance Capitalism*, which first elaborated on the concept, demonstrates how the economic system uses modern technology to acquire and utilize behavioral data from end-users.<sup>7</sup> On a surface level, this information helps to build better products and develop new ideas. However, Zuboff describes the behavioral surplus reaped by companies under surveillance capitalism as the amount beyond what is required for product development and improvement. “Just as industrial capitalism was driven to the continuous intensification of the means of production, so surveillance capitalists and their market players are now locked into the continuous intensification of the means of behavioral modification. . . .”<sup>8</sup> Surveillance capitalism employs technology to derive power from an understanding of the end-user and seeks to use data generated by “free” services to coerce future behavioral outcomes.

Zuboff focuses on Google as the inventor and leader of surveillance capitalism, which then spread across peers and industries.<sup>9</sup> In Zuboff’s interpretation, the lucrative success seen by technology companies is the result of their ability to predict future behavior. Early on, the companies chose to reinvest large portions of their behavioral surplus into improving the user experience.<sup>10</sup> Over time, however, the lucrative nature of this information became known, primarily through application to digital advertising. This profit opportunity led to expansion in the

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<sup>7</sup> SHOSHANA ZUBOFF, *THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER* 8 (2019); Shoshana Zuboff, *Surveillance Capitalism and the Challenge of Collective Action*, 28 *NEW LAB. F.*, 10, 11 (2019).

<sup>8</sup> ZUBOFF, *supra* note 8, at 9.

<sup>9</sup> *Id.* at 9–10; Zuboff, *supra* note 8, at 12.

<sup>10</sup> ZUBOFF, *supra* note 8, at 8.

methods of surveillance capitalism as well as the universe of players. Amazon – a new entrant to surveillance capitalism at the time of Zuboff’s writing – has sought to use its diverse range of product lines and behemoth digital presence to “reproduce[] in the real world the same logic that Google perfected in the virtual world.”<sup>11</sup> JWO technology embodies this potential expansion of surveillance capitalism in three steps: first through Amazon Go stores, then through licensing agreements to all food retail, and ultimately through the creation of a surveillance leader in brick-and-mortar commerce. JWO enables Amazon to apply methods of surveillance capitalism more effectively to the offline environment.

Surveillance, and the attempts by private companies to capitalize from the resulting data streams, is not unique to food retail or technology companies. Zuboff mentions the spread of surveillance capitalism to the home through Amazon Alexa and Google Next, two products that seek to become akin to personal assistants. In her interpretation, Amazon and Google have sought to provide these products as a service to unsuspecting customers within their home and daily lives.<sup>12</sup> Pieces of data from these “personal assistants,” in conjunction with the full host of IoT technology, can create an accurate picture of a person’s daily life. Law enforcement use of surveillance capitalism assets has recently begun and is a disputed methodology that uses one’s personal data against them.<sup>13</sup> This has also led to a form of “surveillance solutionism,”<sup>14</sup> where invasive data collection methods are increasingly relied upon as the preferred solution to problems in the public and private spheres.

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<sup>11</sup> Zuboff, *supra* note 8, at 16.

<sup>12</sup> *Id.* at 15.

<sup>13</sup> Angel Díaz, *When Police Surveillance Meets the “Internet of Things”*, BRENNAN CTR. FOR JUST. (Dec. 16, 2020), <https://www.brennancenter.org/our-work/research-reports/when-police-surveillance-meets-internet-things>, [https://perma.cc/KUZ8-EYLU].

<sup>14</sup> Albert Fox Cahn, *The “Surveillance Solutionism” of Putting Cameras in NYC Subways*, WIRED (Sept. 22, 2022, 8:00 AM), <https://www.wired.com/story/the-surveillance-solutionism-of-putting-cameras-in-nyc-subways/>, [https://perma.cc/9YLW-YWAD].

JWO technology is the entrance of surveillance capitalist assets and ecosystems to the retail space, with food retail as the initial target. Shoppers will soon find that every action in the store will be rigorously catalogued and examined as the newest method by which surveillance capitalists are able to extract behavioral surplus. The results of this technology will be even greater profits for existing firms and the loss of privacy and choice for consumers.

Further, Amazon’s implementation of JWO technology presents a new frontier in brick-and-mortar efficiency. Stores have struggled to adopt successful technologies that bypass the checkout line for many years. Amazon’s elimination of the bottleneck that the checkout queue represents is appealing. Upon release of Amazon Go, a representative for the company stated, “[t]his has pretty broad applicability across store sizes, across industries, because it fundamentally tackles a problem of how do you get convenience in physical locations. . . .”<sup>15</sup> Amazon further promised that, beyond customer identification data, the information created within stores using JWO as a service would belong to those retailers.<sup>16</sup> Both statements appear beneficial for consumers. JWO technology has rapidly decreased in price<sup>17</sup> and is now a viable cost-saving and efficiency-inducing technology. Similarly, the prospect of an extant surveillance capitalist separating itself from a trove of behavioral retail data appears positive.

JWO technology has spawned a number of “copycat” programs that seek to improve efficiency and profit from similar data streams and customer acquiescence. Many of these

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<sup>15</sup> Jeffrey Dastin, *Amazon Launches Business Selling Automated Checkout to Retailers*, REUTERS (Mar. 9, 2020, 3:11 AM), <https://www.reuters.com/article/us-amazon-com-store-technology/amazon-launches-business-selling-automated-checkout-to-retailers-idUSKBN20W0OD>, [https://perma.cc/CDR8-QVK9]. The statement by Amazon is particularly important when we consider how the data could be used by the owner of JWO technology. Amazon could potentially collect information on customers that shop in stores that use the JWO technology (third-party data collection), and then use the information to target such customers. If the retailer is the owner of the data produced by the JWO technology, Amazon would be preempted to use it to favor its own business.

<sup>16</sup> *Id.*

<sup>17</sup> George Iddenden, *Amazon Slashes Cost of Just Walk Out Tech by 96% Paving the Way for Wider Roll Out*, CHARGED (NOV. 18, 2021), [HTTPS://WWW.CHARGEDRETAIL.CO.UK/2021/11/18/AMAZON-SLASHES-COST-OF-JUST-WALK-OUT-TECH-BY-96-PAVING-THE-WAY-FOR-WIDER-ROLL-OUT/](https://www.chargedretail.co.uk/2021/11/18/AMAZON-SLASHES-COST-OF-JUST-WALK-OUT-TECH-BY-96-PAVING-THE-WAY-FOR-WIDER-ROLL-OUT/), [https://perma.cc/URA7-G629].

technologies, coming from native food retail chains, lack the technological capabilities that underpin JWO. These solutions instead operate as “add ons,” optional applications and hardware that consumers can use for decreased checkout times. Stores currently offering these services or conducting pilot programs include Stop & Shop,<sup>18</sup> Albertsons,<sup>19</sup> and Kroger.<sup>20</sup>

However, technology-enabled efficiency does not require surveillance capitalism to exist. Surveillance capitalism is the expression of a business model, not an intrinsic tying of technology and economics.<sup>21</sup> Similarly, an expansion of the universe of surveillance capitalism to traditional retailers does not guarantee that the behavioral surplus will be reduced, or the personal data gathered will be any less invasive. Rather, this expansion will lead more companies to use behavioral surplus as a way of driving profits. JWO technology thus represents a nascent product with an efficiency inducing use that nonetheless creates the potential for consumer harm on a variety of fronts.

## II. PRIVACY AND COMPETITIVE CONCERNS POSED BY JWO

In Amazon Go stores, there are two different products for sale: groceries and consumers’ personal data. While customers survey the produce area for the freshest tomatoes, cameras record their every move. Amazon’s customer surveillance is unprecedented in the food retail industry. The challenges to competition policy and privacy derive from the unparalleled amount of data collected and processed by the company.

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<sup>18</sup> Don Apgar, *New Checkout Tech Brings Grocery Shopping into the Future*, PAYMENTS J. (Jan. 11, 2022), <https://www.paymentsjournal.com/new-checkout-tech-brings-grocery-shopping-into-the-future/>, [https://perma.cc/6PVY-HBPS].

<sup>19</sup> *Albertsons Expands Smart Cart Test as Grocers Aim To Remove Friction from Self-Checkout*, PYMNTS (May 19, 2022), <https://www.pymnts.com/news/retail/2022/albertsons-expands-smart-cart-test-grocers-remove-friction-self-checkout/>, [https://perma.cc/RV2G-EKJ6].

<sup>20</sup> Dan Berthiaume, *Kroger Rolls Out Visual AI-based Self-Checkout*, CHAIN STORE AGE (Sept. 21, 2022), <https://chainstoreage.com/kroger-rolls-out-visual-ai-based-self-checkout>, [https://perma.cc/U9A8-KJ8U].

<sup>21</sup> ZUBOFF, *supra* note 8, at 15.

It is not a new strategy for retailers to collect data on their consumers and attempt to promote a personalized shopping experience. Joseph Turow provides a thorough account of retailers' strategies across the years to better tailor their products to customers and attract patrons. One of the most common strategies was the use of discount coupons. From department stores to supermarkets, coupons were applied widely in the retail industry. Initially, coupons were used mainly to attract new customers and promote brand loyalty.<sup>22</sup> Even though the retailers were satisfied in building recurrence, they knew the coupons could provide them with more detailed information about the shoppers' habits, delivering valuable evidence to reach the goal of personalizing the shopping experience. Supermarkets knew that such personal data could not be wasted, but the analytical challenges at the time (the mid-1990s) were too high.<sup>23</sup>

This picture started to change with the advent and popularization of the Internet at the turn of the century. The introduction of e-commerce was a fundamental shift: data collection became far easier for retailers. The discovery of the potential of web cookies and the accompanying ability to track users heralded a decisive change in how retailers collected individual shopper data over the web.<sup>24</sup> In the grocery industry specifically, electronic coupon delivery was an important part of the strategies used by supermarkets to enter the digital age and promote consumer loyalty. Coupons would not only attract customers back to the stores, thus building loyalty, but could also provide valuable inputs on customers' purchasing habits. But it was the introduction of the mobile

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<sup>22</sup> JOSEPH TUROW, *THE AISLES HAVE EYES: HOW RETAILERS TRACK YOUR SHOPPING, STRIP YOUR PRIVACY, AND DEFINE YOUR POWER* 55 (2017).

<sup>23</sup> *Id.* at 87. ("Despite the immense analytical challenges, many supermarket executives believed that they couldn't afford to ignore the personalizing possibilities of database marketing in view of the intense competition among stores.")

<sup>24</sup> *Id.* at 92. ("The cookie was the most crucial of a range of emerging developments that deepened the notion that the Web was a place for promoting products as well as collecting data on individuals and then using that information to entice them to make a purchase.")

phone that initiated a new chapter in how the retail industry started to track consumers and profit from data generation.

The popularization of the mobile phone provided retailers with a new platform to track customers and personalize offers. The mobile phone reduced the transaction costs that retailers experienced with coupons. “For the first time the shopper, rather than the merchant, brought the connecting technology into the store—and that technology could be used to reliably identify the individual.”<sup>25</sup> The mobile phone enabled grocery stores to send real-time offers via text messages to consumers while they were browsing the aisles. Later, once the smartphone reached a meaningful degree of penetration among customers, supermarkets developed mobile applications for smartphones. In an evolution of the coupons and loyalty programs, customers would download and sign up for the apps, providing the retailers with valuable personal information as well as purchase history. Customer tracking became more widespread and influential with the advent of smartphones.

Constant customer tracking enables personalized pricing and can cause consumer harm. Economic theory explains that the best strategy for a dominant player to capture additional revenue is not to act as a monopolist but instead to price discriminate at the customer level, charging a personalized price based on individual willingness to pay. That strategy, however, has an important obstacle: the monopolist does not have enough information to correctly assess the price elasticity of each consumer (demand elasticity)<sup>26</sup>.

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<sup>25</sup> *Id.* at 101.

<sup>26</sup> HAL R. VARIAN, INTERMEDIATE MICROECONOMICS 273 (9th ed. 2014). (“The price elasticity of demand,  $\epsilon$ , is defined to be the percent change in quantity divided by the percent change in price.”); *Id.* at 276. (“If a good has an elasticity of demand greater than 1 in absolute value we say that it has an elastic demand. If the elasticity is less than 1 in absolute value we say that it has an inelastic demand. And if it has an elasticity of exactly -1, we say it has unit elastic demand. . . . In general the elasticity of demand for a good depends to a large extent on how many close substitutes it has. Take an extreme case—our old friend, the red pencils and blue pencils example. Suppose that everyone regards these goods as perfect substitutes. Then if some of each of them are bought, they must sell for the same price. Now

JWO Technology has the ability to close the gap on the information asymmetry that prevents personalized pricing.<sup>27</sup> There is no reason to believe that Amazon will not use its power in the e-commerce market to expand the company’s area of influence. Amazon’s entrance into the brick-and-mortar retail market through the acquisition of Whole Foods is a perfect example of the company’s ability and incentive to leverage its market power in the e-commerce sector to break into neighboring markets.<sup>28</sup>

K. Sabeel Rahman argues that Amazon should be better understood as an information platform, exercising three different forms of power: gatekeeping, transmission, and scoring.<sup>29</sup> Amazon exerts all three of these powers: it serves as an essential outlet for online sellers; it processes transactions on the platforms (possibly manipulating them for Amazon’s own gain<sup>30</sup>); and it develops scoring systems based on algorithms capable of amplifying social surveillance and inequalities.<sup>31</sup>

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think what would happen to the demand for red pencils if their price rose, and the price of blue pencils stayed constant. Clearly it would drop to zero—the demand for red pencils is very elastic since it has a perfect substitute.”).

<sup>27</sup> *Id.* at 480. (“Under first-degree price discrimination, or perfect price discrimination, each unit of the good is sold to the individual who values it most highly, at the maximum price that this individual is willing to pay for it. . . . A producer who is able to perfectly price discriminate will sell each unit of the good at the highest price it will command, that is, at the consumer’s reservation price. Since each unit is sold to each consumer at his or her reservation price for that unit, there is no consumers’ surplus generated in this market; all surplus goes to the producer.”); Qihong Liu & Jie Shuai, *Price Discrimination with Varying Qualities of Information*, 16 B.E. J. OF ECON. ANALYSIS & POL’Y. 1093, 1095-96 (“[F]irms’ profits increase with information quality. Increasing profit combined with lower social surplus suggests that consumer surplus monotonically decreases with information quality.”).

<sup>28</sup> K. Sabeel Rahman, *Regulating Informational Infrastructure: Internet Platform as the New Public Utilities*, 2 GEO. L. TECH. REV. 234, 245 (2018) (“As a growing number of scholars and advocates have suggested, part of the danger of information platforms lies not just in the power they exercise now, but in the ways in which their current influence on economic and social activity can spill over, enabling dominance in adjacent markets and areas of activity. Thus Amazon’s dominance over retail makes it easier to colonize adjacent markets – as with its entry into the grocery business through its acquisition of Whole Foods.”).

<sup>29</sup> *See id.* at 242.

<sup>30</sup> *See* SUBCOMM. ON ANTITRUST, COM. AND ADMIN. LAW OF THE S. COMM. ON THE JUDICIARY, 117TH CONG., INVESTIGATION OF COMPETITION IN DIGIT. MKTS. 267 (Comm. Print 2020); Lina M. Khan, *Amazon’s Antitrust Paradox*, 126 YALE L.J. 710, 780-81 (2017).

<sup>31</sup> Rahman, *supra* note 29, at 245. (“Scoring algorithms magnify the concerns of public and private surveillance—which increasingly interact in ways that are hidden from view and accountability. It is important to note that one problem with these scoring systems lies in the degree to which they codify stereotypes, flawed information, or inaccuracies that can magnify racial, gender, and other forms of discrimination.”).

Amazon’s JWO technology is the tool developed by the company to employ scoring power in the food retail market. The unprecedented amount of data collected by Amazon from Go customers provides the company with the information necessary to build detailed profiles of their patrons with a level of granularity never seen before. What differentiates Amazon Go’s personal data collection from strategies employed by other food retailers are the Facial Recognition Systems (“FRS”) installed in the stores.

FRS take consumer surveillance to a new level.<sup>32</sup> Turow explains that FRS have an inherent advantage over mobile phone tracking because they are passive.<sup>33</sup> Moreover, FRS extract more data points from each frame captured by the cameras than any other technology, from patterns of light to emotional categories.<sup>34</sup> The technology can capture consumers’ emotions and reactions when they are walking down the aisle.<sup>35</sup> Amazon does not only wish to know what a consumer buys but, more importantly, how a consumer reacts to a product and what they decide not to buy. FRS can also recognize recurring customers, overcoming anonymity as well as providing retailers with an innumerable array of personal information. Thus, a retailer could attempt to reduce information asymmetry and offer personalized pricing to each consumer who enters the store.

The concern with FRS is widespread in the retailer market, but the fact that Amazon is the primary distributor of FRS to grocery stores makes the situation even more worrisome. Amazon is the focal point of a digital ecosystem, including e-commerce, mobile apps, and voice enabling personal assistants. A user of all the features offered by Amazon can virtually be tracked 24/7 by

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<sup>32</sup> Turow clarifies that FRS “involves taking complex measurements of facial images and converting them into a mathematic calculation called a ‘faceprint,’ which is then compared against a faceprint database of photographs and video still images.” TUROW, *supra* note 23, at 226.

<sup>33</sup> *Id.* at 228.

<sup>34</sup> Elizabeth Dwoskin & Evelyn M. Rusli, *The Technology that Unmasks Your Hidden Emotions*, WALL ST. J. (Jan. 28, 2015, 2:13 PM), <https://www.wsj.com/articles/startups-see-your-face-unmask-your-emotions-1422472398>, [https://perma.cc/L7UL-TAA3].

<sup>35</sup> TUROW, *supra* note 23, at 228.

the company. Amazon’s ability to expand its FRS on a large scale is a solution to the analytical challenges that food retailers face. These solutions can be deployed in an anticompetitive and exploitative way. Amazon Go is another piece in the puzzle built by Amazon, integrating virtual and physical surveillance, with the ultimate goal of monetizing data collection, particularly by using the data for targeted advertising.

Alongside the potential price discrimination arising from FRS, the lack of user consent is alarming. Terms of Service<sup>36</sup> are known for being extremely long<sup>37</sup>, difficult to comprehend and hardly read by the customer<sup>38</sup>. In Amazon’s case, data collection concerns are enhanced by the fact that Amazon Go is part of the data collection ecosystem established by Amazon.<sup>39</sup> The user may never be aware of the surveillance employed by the company, despite recent evidence that consumers do care about their own personal data.<sup>40</sup>

Amazon Go’s facial recognition technology starts a new chapter of surveillance capitalism in food retail markets. As argued, the most likely outcome of the reckless use of the technology is personal data exploitation and customer discrimination. Retailers will have more than enough data to achieve first-degree price discrimination. While price personalization will help the companies’

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<sup>36</sup> TARLETON GILLESPIE, CUSTODIANS OF THE INTERNET: PLATFORMS, CONTENT MODERATION, AND THE HIDDEN DECISIONS THAT SHAPE SOCIAL MEDIA 46 (2018). (“Most platforms present users with the rules through two main documents. The ‘terms of service’ is the more legal of the two, a contract that spells out the terms under which user and platform interact, the obligations users must accept as a condition of their participation, and the proper means of resolving a dispute should one arise. It addresses not just appropriate content and behavior but also liability, intellectual property, arbitration, and other disclaimers. It is arguably written with an eye toward avoiding future litigation, often indemnifying the company as broadly as possible against any liability for users’ actions.”)

<sup>37</sup> Nicholas LePan, *Visualizing the Length of the Fine Print, for 14 Popular Apps*, VISUAL CAPITALIST (2020).

<sup>38</sup> Uri Benoliel & Shmuel I. Becher, *The Duty to Read the Unreadable*, 60 BOSTON COLL. LAW REV. (2019).

<sup>39</sup> Matt Burgess, *All the ways Amazon tracks you and how to stop it*, WIRED UK (2021), <https://www.wired.co.uk/article/amazon-history-data>.

<sup>40</sup> Rachel Kraus, *After Update, Only 4 Percent of iOS Users in U.S. Let Apps Track Them*, MASHABLE (May 7, 2021), <https://mashable.com/article/ios-14-5-users-opt-out-of-ad-tracking>, [<https://perma.cc/N8BR-TE5V>]. On the economic effects of Apple privacy changes, see Kate Conger & Brian X. Chen, *A Change by Apple Is Tormenting Internet Companies, Especially Meta*, N.Y. TIMES (Feb. 3, 2022, 10:26 PM), <https://www.nytimes.com/2022/02/03/technology/apple-privacy-changes-meta.html>, [<https://perma.cc/H3LJ-GKX4>].

bottom line, it represents a threat to economic welfare. Retailers will more effectively be able to segregate customers by socio-economic factors. As Turow writes, “the data-driven stratification of customers encourages abandonment of the historical ideal of egalitarian treatment in the American marketplace.”<sup>41</sup>

Businesses based on personal data are not natural. Shoppers should not accept and normalize surveillance in food retail markets or any other sector. Social discrimination based on facial recognition must be denounced and condemned, as has happened outside the United States.<sup>42</sup> The next section outlines some strategies that can be implemented to reduce the harmful impact of personal data exploitation.

#### **CONCLUSION: POLICY AND LEGISLATIVE PROPOSALS**

Gathering data on consumers’ habits is not a new strategy for retailers, particularly in grocery markets. As Turow presents in his book, the introduction of the uniform bar code was beneficial to consumers.<sup>43</sup> The new technology presented by the uniform bar code indeed provided retailers with valuable information on consumer habits, but it also allowed the stores to better control their inventory and promoted faster reshelving of products. In this sense, the data collection improved the customer experience by reducing the chances consumers would face empty shelves.

The strategy launched by Amazon in Go stores expands the scope of consumer surveillance. Amazon does not only collect a larger volume of data than its competitors, but it also gathers very granular data from its consumers. This is the differential. The FRS employed by the

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<sup>41</sup> TUROW, *supra* note 23, at 244.

<sup>42</sup> See Fernanda Catão de Carvalho & Igor Baden Powell, *Brazilian Cities and Facial Recognition: A Threat to Privacy*, FORDHAM URB. L.J. (2022), <https://news.law.fordham.edu/fulj/2022/01/06/brazilian-cities-and-facial-recognition-a-threat-to-privacy/>, [https://perma.cc/K5HG-BKRH].

<sup>43</sup> TUROW, *supra* note 23, at 62.

JWO technology allows for potentially greater degrees of consumer personalization and price discrimination by Amazon.

As mentioned in the previous section, the main concerns regarding Amazon’s extensive data collection arise in the fields of privacy protection and antitrust. There is a significant intersection of both concerns.<sup>44</sup> With that in mind, we suggest a concerted action from antitrust authorities and Congress to address these issues.

On the privacy side, it is particularly remarkable that the United States does not have a broad federal law covering data privacy and consumer protection. Instead, the country has a myriad of laws that go by uncanny acronyms designed to tackle privacy issues in a specific market or sector.<sup>45</sup> Only three states have passed and signed laws that address privacy concerns widely.<sup>46</sup> Our proposal here is for Congress to pass a broad privacy law applicable to the entire country. The *Information Transparency & Personal Data Control Act* introduced by congresswoman Suzan DelBene (D-Wa.) in 2021 is an interesting starting point.<sup>47</sup>

Section 3 of the bill requires the Federal Trade Commission (“FTC”) to promulgate regulations related to sensitive personal information. It requires both that data controllers provide users with information regarding the data collection and users to provide affirmative consent to

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<sup>44</sup> There is intense academic production on the intersection of antitrust and data privacy, particularly in a context of larger data protection laws and concerns regarding the power of Big Tech companies. *See, e.g.*, Erika M. Douglas, *The New Antitrust/Data Privacy Law Interface*, YALE L.J.F. 647, [pincite] (Jan. 18, 2021), [https://www.yalelawjournal.org/pdf/DouglasEssay\\_pv1pt6ak.pdf](https://www.yalelawjournal.org/pdf/DouglasEssay_pv1pt6ak.pdf), [https://perma.cc/V9CE-FBJ4]; Frank Pasquale, *Privacy, Antitrust, and Power*, 20 GEO. MASON L. REV. 1009, [pincite] (2013); Erika M. Douglas, *Data Privacy as a Procompetitive Justification: Antitrust Law and Economic Analysis*, 97 NOTRE DAME L. REV. REFLECTION 430, [pincite] (2022).

<sup>45</sup> Thorin Klosowski, *The State of Consumer Data Privacy Laws in the US (And Why It Matters)*, N.Y. TIMES (Sept. 6, 2021), <https://www.nytimes.com/wirecutter/blog/state-of-privacy-laws-in-us/>, [https://perma.cc/MA4M-RTEL].

<sup>46</sup> The states are California, Colorado and Virginia. *Id.*

<sup>47</sup> Information Transparency & Personal Data Control Act, H.R. 1816, 117th Cong. (2021). Section 2 of the bill states the Sense of Congress, exposing the justifications behind the text of the legislative proposal. It includes important remarks such as the individual right to exercise control over the personal data companies collect from them and how they use it, and a right easily understandable and accessible information about privacy and security practices. H.R. 1816 § 2(6)(A)-(B).

any functionality that involves the sale, sharing, or other disclosure of sensitive personal information.<sup>48</sup>

In the context of intense intersection of privacy and antitrust, it is noteworthy that the Information Transparency & Personal Data Control Act picks the FTC as the competent government body to enforce the law. Section 4(b)(1) states that violations of the Act shall be treated as a violation of Section 18(a)(1)(B) of the FTC Act regarding unfair or deceptive acts or practices. Such provision appears to be in harmony with the current initiatives to reform Section 5 of the FTC Act,<sup>49</sup> which prohibits “unfair methods of competition in or affecting commerce.”<sup>50</sup>

An expanded interpretation of Section 5 would provide the FTC with more tools to identify, investigate, and fight unfair methods of competition even in the absence of a violation of the Sherman Act. In such a scenario, the FTC would be equipped to operate on violations of privacy without the need to also explicitly pinpoint violations of antitrust laws.<sup>51</sup> Notwithstanding, we argue that Amazon Go’s JWO technology has deceptive traits that harm competition and the consumer. The competitive concerns arising from the technology are intrinsically related to the privacy exploitation of consumers. New guidance on Section 5 would provide the FTC with the necessary legal mandate to pursue cases on which anticompetitive conducts are based on the misuse of personal data.

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<sup>48</sup> H.R. 1816, 117th Cong. § 3 (2021)

<sup>49</sup> FTC, *Statement on the Withdrawal of the Statement of Enforcement Principles Regarding “Unfair Methods of Competition” Under Section 5 of the FTC Act* (July 1, 2021) (statement of Chair Lina M. Khan joined by Commissioner Rohit Chopra and Commissioner Rebecca Kelly Slaughter) (“In our view, the 2015 Statement abrogates the Commission’s congressionally mandated duty to use its expertise to identify and combat unfair methods of competition even if they do not violate a separate antitrust statute. Accordingly, because the Commission intends to restore the agency to this critical mission, the agency withdraws the 2015 Statement.”), [https://www.ftc.gov/system/files/documents/public\\_statements/1591498/final\\_statement\\_of\\_chair\\_khan\\_joined\\_by\\_rc\\_and\\_rks\\_on\\_section\\_5\\_0.pdf](https://www.ftc.gov/system/files/documents/public_statements/1591498/final_statement_of_chair_khan_joined_by_rc_and_rks_on_section_5_0.pdf), [https://perma.cc/GXX4-CG2L].

<sup>50</sup> 15 U.S.C. § 45(a)(1).

<sup>51</sup> For an academic proposal regarding Section 5 guidance, see Steven Salop & Jennifer Sturiale, *The FTC Should Quickly Issue New Section 5 Enforcement Guidelines*, PROMARKET (July 26, 2022), <https://www.promarket.org/2022/07/26/the-ftc-should-quickly-issue-new-section-5-enforcement-guidelines/>, [https://perma.cc/2TSM-C874].

A broad and comprehensive federal bill would not only promote better data protection but also reduce the asymmetries of information due to the current variety of privacy laws. A federal law would also promote better legal certainty for companies, particularly by standardizing privacy rules and reducing compliance costs. The National Retail Federation (“NRF”) has already demonstrated its support for the bill and willingness to work together with Congress.<sup>52</sup> Even though the NRF initiative is noteworthy, academics and civil society must closely monitor how the text evolves in Congress to ensure that the bill is not a target for capture by certain economic sectors and interests.

As has been discussed, competitors sought to create efficient and less labor-intensive alternatives to the checkout line for years. Most notably, Stop n Shop and Walmart ran pilot programs that used smartphone apps or handheld scanners to mimic the data collection methods of JWO.<sup>53</sup> At its core, these programs have struggled largely because of the unwillingness of customers to conduct the work of gathering their own data. Whether through the lens of a smartphone camera or the trigger of a mobile scanner, self-run checkout pilots have empirically proven to be ineffective. JWO technology’s success proves that it is made to be inherently deceptive. The customers do not feel the burden of data gathering because they are the subject of an unspoken contract. As said previously, FRS is plainly passive for the customer. JWO asks shoppers to enjoy the efficiencies of surveillance capitalism but not to question the intricacies of the system or the exploitation that is inherent to its success.

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<sup>52</sup> See J. Craig Shearman, *Retailers Support DelBene Bill Providing Balanced Approach to Privacy Law*, NAT’L RETAIL FED’N (Mar. 10, 2021), <https://nrf.com/media-center/press-releases/retailers-support-delbene-bill-providing-balanced-approach-privacy-law>, [https://perma.cc/Z5FM-GCS7].

<sup>53</sup> Michael Suswal, *Why Retailers Are Abandoning Scan & Go Self-Checkout*, MULTICHANNEL MERCH. (July 21, 2022), <https://multichannelmerchant.com/blog/retailers-abandoning-scan-go-self-checkout/>, [https://perma.cc/A3VR-J5U8].

Yet, exploitation must not be inherent to the viability of JWO in the market. The proposed changes to existing data privacy legislation will allow JWO to remain a powerful product. Intellectual property protection and Amazon’s existing scale mean that JWO will create operational cost savings even without personal privacy violations. These efficiencies will drive adoption not just throughout food retail but within all brick-and-mortar commerce. Fighting surveillance capitalism through enhanced data privacy laws will not lead to the avoidance of vital or efficiency-inducing technologies but rather adoption with a long-term focus on consumer privacy and welfare.

We acknowledge that other policy proposals may be more complex than our own. However, it should be stressed that data collection in food retailing markets is a remarkably novel issue which has not been addressed by Congress at all. Our proposals build on current initiatives to establish a broader data protection scheme and operate under the belief that data collection in food retailing markets should be encompassed by the privacy protection framework.