Strategizing Retailing in the New Technology Era

Dhruv Grewal [a,*], Dinesh K. Gauri [b], Anne L. Roggeveen [a], Raj Sethuraman [c]

[a] *Babson College, United States*
[b] *University of Arkansas, United States*
[c] *Southern Methodist University, United States*

Abstract

The world of retailing is being reimagined and transformed at breakneck speeds due to new technologies, as well as due to changes in consumer purchasing behavior resulting from the COVID-19 pandemic. This dynamic retail marketplace is forcing retailers to strategize how to best position themselves to survive and flourish in this environment. Recognizing that we are at a critical inflection point in the world of retailing, we conceptualize a Strategic Wheel of Retailing in the new technology era that emphasizes technology as the core enabler of the strategies related to the 6Ps of retailing (retail place and supply chain management, product, pricing, promotion, personnel, and presentation). In particular, the articles calls for retailers to carefully their review their competitive ecosystem as they adapt to the new technologies, raises some issues, and offers new directions for further research on how technology can be leveraged to design profitable retail strategies.
© 2021 Published by Elsevier Inc. on behalf of New York University.

The world of retailing is changing rapidly due to changes in technology and consumer behavior. This dynamic retail marketplace is forcing retailers to strategize how to best position themselves to survive and flourish in this environment. Even before COVID-19, retailing was changing dramatically spurred by new technologies (Grewal, Roggeveen, and Nordfält 2017) that affected everything from in-store strategies to back-end operations (e.g., warehouses, supply chains) to communication (e.g., websites, social media platforms) to the promotion and display of merchandise. However, the speed of this transformation has been accelerated by the pandemic. While the pandemic has adversely affected some retailers, for others it has been a boon. These success stories are most obvious at mass merchandisers, grocery chains, drug stores, home improvement stores and predominantly online players. However, there are other retailers which have also been successful, driven largely by their nimbleness at pivoting to meet the demands of the marketplace. While this ability to pivot is related to their physical, financial, and technological resources, as well as their supply-chain integration, it is also due to the vision of their leaders in being able to reimagine their business models and strategies.

COVID-19 has caused retailers to modify aspects of their supply chain, inventory and delivery systems, as well as introduce new ways of shopping for customers (Roggeveen and Sethuraman 2020a). Many of these changes were made possible by technologies. For example, users can stream fitness instruction through their exercise machines or watch new movies in the comfort of their living room thanks to streaming services and the changing model for movie distribution. Additionally, consumers can order food delivered to their home from a variety of services such as UberEats or Instacart. Personalized subscription services for items such as food (e.g., Hello Fresh) or clothing (e.g., StitchFix) have also increased in popularity.

While these services may not be new, their growth during the pandemic has been powered by technology. Expanded applications of artificial intelligence (AI), machine learning, virtual reality, big data, and mobile apps have all contributed to front-end offerings that impact the retail interface with customers, as well as back-end technologies that facilitate retail operations (Roggeveen and Sethuraman 2020b). Retailers are offering new places for customers to shop. Facebook Shops was introduced in May 2020 as a way for businesses to set up an online store for customers that was accessible directly from Facebook or Instagram. TVs are also becoming shoppable. NBC Universal Checkout lets viewers use a QR code to select a featured product in a video and make a purchase.

Fig. 1. The strategic wheel of retailing in the new technology era.

Recognizing that we are at a critical inflection point in the world of retailing, this article presents the Strategic Wheel of Retailing in this new technology era. As shown in Fig. 1, we conceptualize these strategy decisions around the 6Ps (retail place and supply chain management, product, pricing, promotion, personnel, and presentation) as the spokes of retailing and technology as the hub.

The New Technology Era

Technology is central to building effective retail processes for customers, employees, retailers, and suppliers. In the rapid evolution of retailing, nearly every retailer has increased its technology endeavors to better serve its customers. Building on this notion, Shankar et al. (2021) examine the drivers and outcomes of using new retail technology across a broad range of uses. In turn, they offer predictions related to how the adoption of these technologies might result in greater purchases, satisfaction, and loyalty among shoppers. They also consider the related benefits for performance outcomes, including improved delivery operations, revenues, market share, profits, and shareholder value.

One way that technology is enhancing retail revenues is through encouraging shoppers to use a variety of technologies such as mobile phones and hand-held scanners. As a demonstration, research has shown that shoppers who use their mobile phones tend to become distracted, such that they wind up buying more (Grewal et al. 2018). Similarly, consumers using handheld scanners pay more attention to the merchandise (and likely get closer to it), which also prompts them to buy more (Grewal et al. 2020).

While new retail technologies encapsulate a wide range of technologies, many can be grouped under an AI umbrella. Due to the vast volumes of customer data available across formats

(e.g., grocery, drug, warehouse), AI is a powerful tool which can draw from that data to inform retail decisions. Due to the insights and information AI can provide to retailers, some predict that AI will become a dominant force in the retail industry (Chui et al. 2018). Recognizing this, Guha et al. (2021) focus on the growing role of AI solutions in retail, noting the host of AI-based solutions emerging in the marketplace. These include voice-assisted devices like Amazon's Alexa, smart shelves in Kroger that can offer customers targeted promotions, robots like Pepper that provide customer service, and bots in vee | 24 that can nudge customers along their shopping journey.

To understand adoptions of both customer-facing and back-end AI applications, interviews conducted with retail and technology executives revealed not only the moderating effects of the retail context (online or physical store) but also the importance of safety and privacy concerns among customers interacting with retail AI technologies (Guha et al. 2021). Customer-facing AI applications (e.g., Pepper for customer service, Amazon Go for checkout, Alexa for online transactions, vee | 24's nudge bot) can enhance customer satisfaction and potentially increase revenues. The many AI applications that are not customer-facing also can facilitate the retail experience, whether by managing supply chains, enhancing demand forecasting, or performing logistical and warehouse activities more efficiently. All these AI solutions require assurances that they are unbiased and fair, as customers learn more about them (Rai 2020). Clear policies and communications can help increase consumer confidence and willingness to use AI-based technology, without worrying about the safety and security of their information. Consumers are already extremely concerned about their privacy though (Okazaki et al. 2020), and AI retail techniques appear likely to exacerbate those concerns.

In summary, recent publications in this domain highlight a range of pertinent research issues that need exploring. Some pertain to the role of technology more generally, but others should address current events and consider how technologies adopted during the pandemic are likely to persist in its aftermath. For example,

1. How does each of the various in-store technology solutions (e.g., smart mirrors, robots) influence consumer shopping behavior? Do they all enhance customer engagement?
2. How will in-home personalized technologies (e.g., Lululemon's Mirror which uses advanced camera technology and proprietary algorithms to deliver in-workout adjustment based on the individual's goals and preference) impact consumer usage and engagement with companies and their products and services?
3. How do augmented/virtual reality and AI solutions influence consumer safety and privacy concerns? Can they be beneficial? When and how?

Retail Place & Supply Chain Management

Retail formats have continually evolved, from small, family-owned stores to vast department and general merchandise stores, as well as mass merchandisers, supercenters, convenience stores,

and specialty stores. However, none of this evolution has been as disruptive as online channels facilitated by all the advancements in technology. Brick-and-mortar retailers have nearly universally moved into online channels, and COVID-19 has hastened their commitment to operating and competing in this space. But at the same time, online players have started to move into brick-and-mortar spaces, as when Amazon acquired Whole Foods and started to operate Amazon Go stores.

Across the board, the fundamental challenge has been finding a way to operate all channels in a seamless, synchronized fashion, and thereby transforming multichannel retailing strategies to a true omnichannel strategy that optimizes all customer touchpoints (Gauri et al. 2021b). Such an effort takes substantial investments by retailers, as well as strong technology capabilities and sufficient know-how. Whether existing retailers acquire other firms, such as Walmart acquiring jet.com, or build internal teams, supplemented with an array of consultants, retailing formats steadily are evolving toward omni-channel digital operations. Retailers sell through their online websites, a host of social media platform shops (e.g., Facebook, Instagram, Pinterest), and various influencers. These emerging retailing methods have yet to receive much research attention and are fruitful topics for the future.

Researchers need to take a more comprehensive customer-centric view to understanding store formats. Gauri et al. (2021a) highlight two paths retailers can take to remain relevant to customers and competitive. The first path involves enhancing the customer experience, which has been the focus of many articles in the past two decades, particularly as reflected in the *Journal of Retailing* special issues on Customer Experience Management (Grewal, Levy and Kumar 2009) and Understanding Retail Experiences and Customer Journey Management (Grewal and Roggeveen 2020). Some of the articles in these special issues suggest ways that retailers can effectively enhance customer experiences, across pre-purchase stages (e.g., sampling and trialability, Roggeveen, Grewal and Schweiger 2020), during purchase (e.g., autonomous technologies, de Bellis and Johar 2020), and then post-purchase (e.g., packages and opening them, Moreau 2020).

The second path instead aims to decrease consumer friction. Gauri et al. (2021a) cite Amazon as a retailer that exemplifies some of the many ways to reduce friction that can hinder consumers from completing their shopping tasks, including its one-click ordering process, free second-day shipping, and sophisticated recommendation algorithm. Again, technology is leading the way in assisting retailers in ameliorating customers' pain points.

The best retailers optimize value for shoppers by enhancing their customer experience while simultaneously reducing the frictions and inconvenience associated with shopping (e.g., Lululemon, Apple, Nike, Sephora, Target, Walmart, Kroger, Warby Parker). Together with this delineation of paths to success, Gauri et al. (2021a) shine light on different retail formats including hybrid formats that allow customers to buy online and receive delivery or pick up the merchandise curbside. With Walmart's Express Delivery, shoppers place orders online, giving personal shoppers the task of picking the merchandise, and then have the items delivered in the manner they prefer. Similar options are available through Target, which also provides delivery through Shipt (one of its acquisitions). All these delivery options help physical-first retailers compete against Amazon. Despite the rise of such delivery options, Gauri et al. (2021b) emphasize the importance of the fundamentals of retailing – larger assortment, competitive prices, and purchase convenience as still being important to shoppers, while also expecting more delivery and pick-up options.

As every retailer has (or is) expanding or changing their store formats, it becomes central for them to also carefully rethink and redesign their complete supply chain. As they go about revising and redesigning their supply chain, the role of sustainability needs to play a prominent role (Vadakepatt et al. 2021). Nearly every retailer has adopted major sustainability initiatives, such as IKEA's use of renewable and recyclable material, Patagonia's insistence on a rigorous sustainability process for all its suppliers, or Walmart's wide range of initiatives. They also publish regular sustainability reports.

Vadakepatt et al. (2021) propose a closed-loop model that highlights the unique position of retailers in supply chains. This model starts with raw materials, integrates suppliers and manufacturers, then passes through retailers to reach consumers and, ultimately, disposal. They call on retailers to acknowledge the entire loop, rather than conduct ad hoc activities, and establish and maintain standards for the whole supply chain. In particular, Vadakepatt et al. (2021) suggest retailers should manage and reinforce the 3Rs: Reuse, Reduce, and Recycle. Careful, well-thought-out sustainability efforts can make the entire supply chain healthier and more financially sound, while also increasing the benefits for the planet and people. Retailers also should communicate the benefits of recycling to customers (Winterich, Nenkov and Gonzales 2019).

These innovations in retail formats and sustainability-related, closed-loop initiatives present many new challenges and research opportunities for academics to collaborate with retailers and other members of retail supply chains. For some retail giants, recent advancements have led to greater market power (e.g., digital-first retailers like Amazon, physical-first retailers like Walmart and Target) and a growing footprint. They also are transforming into marketplaces themselves, providing new opportunities for smaller retailers and third-party sellers to compete using their technological platforms. Arguably though, such dominance by a few players could lead to monopoly forms of power and anti-trust actions. How will smaller players compete in that case? Will they need to find and explore new niche markets? In line with these broader considerations, continued research into retail place decisions need to address practical issues, such as the following:

1 How should retailers prioritize their brick-and-mortar operations relative to their digital operations? What facets of various omnichannel operations drive customer engagement most effectively?

2 How do different ordering (in-store vs. online) and delivery (in-store, at home, curbside) mechanisms influence consumers' shopping behaviors (e.g., amount purchased, fre-

quency of purchase)? How does it influence their customer loyalty?

3 Which metrics are optimal for assessing the success of the sustainability outcomes? How might these metrics vary by stakeholder (e.g., supplier, manufacturer, retailer, consumer)?

Retail Product

The merchandise and services offered by retailers are part of their core value proposition. Consequently, many senior leaders of retailing firms dedicate their efforts to purchasing or designing merchandise. Because merchandise decisions can make or break a retailer, retailers continually experiment with the merchandise assortment to be most relevant to customers. Over time, the number of items in the assortment tends to increase, because larger assortments prompt more visits from consumers and larger shopping basket sizes (e.g., Trivedi, Gauri, and Ma 2017). Key components of merchandising decisions involve both understanding the role of the retailer identity that the retailer conveys through its merchandise, as well as the fine balance between national brands and store/private label brands. Careful balance of the type of merchandise and assortment carried by the retailer is important for it to create meaningful relationships with their customers.

Although private labels and store brands have been available for decades, they account for an increasing share of retailers' assortments. They have evolved from low-priced, low-quality options to spanning a multi-tiered assortment, in which the top or premium private-label brands offer great quality and good prices—as well as greater profit margins for retailers. Gielens et al. (2021) outline different types of private-label strategies undertaken by retailers. Some focus on marketing all their private labels under one umbrella brand (e.g., Costco, Sam's Club); others provide an umbrella organization for a range of private-label brands (e.g., Amazon, Target, Walmart). They recommend that private labels should extend beyond price and quality considerations to address other emerging attributes (e.g., image, sustainability). Retailers also need to leverage the data readily available to them, using their evolving analytics capabilities to develop a "smart private-label" strategy. Such strategies would truly benefit from being informed by academic and practitioner collaborations. Gielens et al. (2021) also concur that advances in data and analytics enable both academics and retailers to gain a broader understanding of various customer journey stages (from browsing to buying to consumption). These advances support greater targeting of niche segments and more precise personalization. Retailers and their design teams thus gain new insights into the needs of different segments, which has prompted them to offer a wider variety of brands (national and private label). Some of the bigger retailers (e.g., Amazon, Walmart, Carrefour, Aldi, Lidl, Trader Joes) and start-ups (e.g., Casper, Quip, Flamingo, Brandless.com) already offer their customers smart private-label brands.

It is key that the merchandise that is offered creates excitement for the customers, as well as is viewed to be relevant by the customers. A common method of creating excitement is by offering customers a variety of merchandise (i.e., number of SKUs in a category). On the other hand, such a strategy involves managing more SKUs and maintaining higher levels of inventory. Thus, retailers have to be diligent about removing unexciting and less relevant SKUs. The advancements in data and analytics are playing a prominent role in managing this fine balance between creating excitement with more and more SKUs and keeping costs controlled.

In their framework, Roggeveen et al. (2021) propose five strategies for how retailers go about enhancing the relevance of their merchandise. These strategies are that merchandise should be: (1) unique and original, (2) local, (3) sustainable, (4) fashionable, and (5) artistic. These authors also offer merchandising strategies, related to price and promotion considerations, and suggest that retailers can rely on social media to amplify their merchandise and promotional messages.

While understanding how to use the merchandise assortment offered to align with customer's identities, retailers can better connect with customers. It is critical for this to be done strategically, especially as COVID-19 is forcing manufacturers and retailers to simplify their assortment strategies. The pandemic has encouraged consumers to focus more on essentials and forgo luxury and hedonic products. In addition, much merchandise is being purchased and consumed from their homes. Thus, it is important to understand:

1 As consumers interact more with technology and bots, does the lack of social interactions with humans influence brand preferences or purchases of essential versus luxury goods?

2 Are luxury goods sales likely to resume to prior levels, due to pent-up demand, or are they more likely to remain low, relative to the levels achieved before COVID-19?

Retail Pricing

Strategically setting the price to capture the value from customers is essential for all retailers. Retailers are using all the recent advancements in technologies to ensure that they make the right offers to the right consumers at the right time (Villanova et al. 2021). Pricing research generally explores the ways price information is communicated to consumers, as well as the effects of price and other types of promotions on consumer behavior. The list of potentially affected behaviors is extensive, including (but not limited to) purchases, brand switching, and complementary product purchases.

Extant behavioral research outlines how prices have been presented (reference or sale prices – e.g., Guha et al. 2018) and how they influence both the value of the product and the value of the deal (Grewal, Monroe and Krishnan 1998). AI-powered information that retailers can extract from their existing data (Guha et al. 2021) will be integral in their future pricing strategies. Additionally, Roggeveen et al. (2021) highlight the importance of merchandising, which can include decisions about how to best display prices. For example, imagine a mannequin in a clothing store. The prices could be displayed for the individual items on the mannequin or as a bundled price for all the items that the mannequin is wearing. These elements become even more interesting as retailers consider digital technology. For example, knowing

information about a customer, if that customer customizes an outfit on a virtual model, the retailer can strategically decide to how to display prices to that customer (e.g., individually or as a bundle).

Retailers must also carefully consider the public policy implications of their pricing and promotion strategies. For example, federal and state laws related to reference pricing are becoming increasingly stringent. Retailers must ensure that any reference prices provided are bona fide and incorporate a high level of transparency in their strategies. Similarly, laws around data privacy are also becoming more stringent. More research is needed to address some key questions:

1 How does AI technology enable retailers to offer optimal prices?
2 How receptive are consumers to retailer price offers delivered by AI agents?

Retail Promotions

Retailers must carefully consider how to promote their merchandise and services to customers. Retailers have many more options for how and when to communicate with customers than they have in the past due to the prevalence of different technologies and customer usage of social media. Villanova et al. (2021) consider key opportunities for retailers as the customers move through their shopping journey. This includes thinking strategically about when what, and where to communicate in their messaging to customers. What will move customers from the consideration and evaluation phase to the buy phase to the loyalty phase? Their research drives home the need for retailers to tailor their message carefully to drive positive metrics for the company. For example, public personalized ads, displayed through in-store displays, can enhance purchase effects if done well, but they can reduce consumer responses in other settings (Hess et al. 2020).

Some key areas of advancement in offering retailer promotions to consumers have been facilitated by technology, such as online offers, mobile offers and in-store offers. It has increased the opportunity for retailers to provide content to match consumers' online journey (Humphreys, Isaac, and Wang 2021). Furthermore, as mobile devices and applications are increasingly becoming more popular, advances in technology support retailers in assisting them in providing consumers relevant offers (Grewal et al. 2016). At the same time, retailers must incorporate privacy and data restrictions into their strategizing about promotions. In addition, further research is encouraged around the following questions:

1 How can retailers enhance sales using a variety of in-store (e.g., digital displays, kiosks, robots) and online (e.g., bots, personalized content) technology? In this environment, does the type of product (e.g., utilitarian vs. hedonic) influence the effectiveness of promotional and communication strategies?
2 How can retailers use the advancement in technology to be more transparent about their promotional and privacy policies

with customers? Will such transparency result in an increase in their engagement with and loyalty toward a retailer?

Retail Personnel

Frontline employees, who serve as the face of the retailer are critical assets. Historically, a retailer employed all frontline workers full-time. However, in today's gig economy, retailers are increasingly turning to temporary (part-time) workers, especially as they add new services (e.g., curbside pick-up, home delivery), or they outsource the service to third-party companies (e.g., DoorDash, Instacart) to limit their reliance on full-time employees and the costs associated with it. Robots also complete tasks to relieve or replace store associates, such as scanning shelves to identify when inventory is low. In addition to providing services, retailers are signaling these enhanced service levels by providing pictures and stories of superior service in their physical locations (Herhausen et al. 2020), which help evoke more positive assessments.

For the more personal interactions where the frontline worker should be familiar with the customer, retailers still benefit from customer relationship management systems that collect and store information about the customer. However, even some of those interactions are being done by AI-based bots which assist customers on their websites, reduce frictions and online shopping cart abandonment, and increase conversions. Recognizing the strategic importance of the customer-retailer data exchange as part of customer relationship management, Kraft et al. (2021) developed a conceptual framework to examine the drivers of consumer data disclosure, consumer evaluations of the terms of the data exchange, and consumer consequences. In addition, they consider the moderating factors impacting the retailer's ability to generate a competitive advantage from the data. A host of potential ethical concerns arise from data sharing. These privacy concerns have steadily emerged as an important arena for critical research, as highlighted by Martin and Palmatier (2020), and are important for retailers to consider in their strategizing.

Mende and Noble (2019) draw attention to the broader role of frontline employees. These frontline issues became even more complicated with the spread of COVID-19. Frontline workers employed by stores that have been forced to close, whether temporarily or permanently, have suffered complete disruptions to their lives and been forced back into a difficult job market. Others, working in essential services (e.g., grocery, drugstores, home improvement), encounter more challenging work environments (e.g., risk of exposure to the virus, mask requirements, social distancing, dealing with hostile customers). There is thus a great need to understand how retailers have dealt with this crisis and what lessons they can learn for dealing with its ongoing effects, as well as new crises when they occur. Some stores appear to believe the best solution is to provide store managers with more authority and flexibility to make assortment, staffing, and display decisions. All these changes suggest the need to investigate additional retail personnel and service research issues, such as:

1 Can retailers motivate frontline employees in a time of crisis? What rewards and forms of recognition should they use? How can technology assist in motivating and rewarding employees?
2 How should retailers encourage customer engagement, in an environment where retail associates need to maintain social distance? Can technology augment retail associates' efforts to interact with customers?

Retail Presentation

The physical atmosphere (or sensory elements) of the retail store and the appearance of the online retail website has important influences on consumer shopping behavior (Biswas 2019). Roggeveen, Grewal and Schweiger (2020) showcase four central factors: design, ambience, social, and trialability. Building on this, Roggeveen et al. (2021) also highlight how merchandise displays can build brand identities and captivate consumers' imagination. Creative merchandise displays evoke various sensory elements (though predominantly visual ones). With a series of interviews with practitioners, they identify four major tactics used by retailers: (1) creating themes (e.g., Nordstrom depicted a rock formation, which consumers view as artistic and colorful), (2) reflecting the brand story (e.g., Chanel integrates lighting, music, and décor to help consumers visualize the brand story), (3) entertaining customers with playful elements (e.g., Åhléns children store's display includes climbing rubber ducks), and (4) highlighting brand exclusivity (e.g., Nordstrom's minimalist mannequins displaying merchandise). Clearly, store design features help consumers understand their options; The Container Store's next-generation store concept showcases closet styles almost exclusively, to enable customers to envision their future closets. Some research issues for consideration:

1 How effective are digital displays and technologies in evoking positive sensory responses from customers?
2 In which circumstance can augmented or virtual retail technologies best simulate customers' real physical experience?

Conclusion

In this new technology era, the pace of change in retailing has been accelerating rapidly. Various technologies (AI, machine learning, big data analytics, automation, augmented reality, robotics etc.) have become essential elements that impact key strategic decision areas of retailing. Using the Strategic Wheel of Retailing as our framework, we discuss key areas of strategic decision making for retailers, including technology, retail place and supply chain management, product, pricing, promotion, presentation, and personnel. In addition, we offer suggestions for future research in each of these areas. The insights provided by this article reveal that every retailer should review its competitive eco-system, while also looking inward to use technology as a key enabler. In addition, researchers can take inspiration from the research directions and issues raised in this paper.

References

Biswas, Dipayan (2019), "Sensory Aspects of Retailing: Theoretical and Practical Implications," *Journal of Retailing,* 95 (4), 111–5.

Chui, Michael, James Manyika, Mehdi Miremadi, Nicolaus Henke, Rita Chung, Pieter Nel and Sankalp Malhotra (2018), *Notes from the AI Frontier: Applications and Value of Deep Learning,* April 2018. (retrieved June 12, 2019). McKinsey Global Institute Discussion Paper. https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-applications-and-value-of-deep-learning

De Bellis, Emanuel and Gita V. Johar (2020), "Autonomous Shopping Systems: Identifying and Overcoming Barriers to Consumer Adoption," *Journal of Retailing,* 96 (1), 74–87.

Gauri, Dinesh K., Rupinder P. Jindal, Brian Ratchford, Edward Fox, Amit Bhatnagar, Aashish Pandey, Jonathan R. Navallo, John Fogarty, Stephen Carr and Eric Howertonh (2021a), "Evolution of Retail Formats: Past, Present, and Future," *Journal of Retailing,* 97 (1), 42–61.

Gauri, Dinesh K., Rupinder Jindal, Yu Ma and Wanyu Li (2021b), "Omnichannel Battle Between Amazon and Walmart: Is the Focus on Delivery the Best Strategy," *Journal of Business Research,*, (forthcoming).

Gielens, Katrijn, Yu Ma, Aidin Namin, Raj Sethuraman, Ronn J. Smith, Robert C. Bachtel and Suzanne Jervis (2021), "The Future of Private Labels: Towards a Smart Private Label Strategy," *Journal of Retailing,* 97 (1), 99–115.

Grewal, Dhruv, Yakov Bart, Martin Spann and Peter Pal Zubcsek (2016), "Mobile Advertising: A Framework and Research Agenda," *Journal of Interactive Marketing,* 34 (May), 3–14.

Grewal, Dhruv, Michael Levy and V. Kumar (2009), "Customer Experience Management: An Organizing Framework," *Journal of Retailing,* 85 (1), 1–14.

Grewal, Dhruv, Kent B. Monroe and R. Krishnan (1998), "The Effects of Price Comparison Advertising on Buyers' Perceptions of Acquisition Value, Transaction Value and Behavioral Intentions," *Journal of Marketing,* 62 (April), 46–60.

Grewal, Dhruv, Carl-Phillip Ahlbom, Stephanie Noble, Lauren Beitelspacher and Jens Nordfält (2018), "In-Store Mobile Phone Use and Customer Shopping Behavior: Evidence from the Field," *Journal of Marketing,* 82 (4), 102–26.

Grewal, Dhruv, Stephanie Noble, Carl-Phillip Ahlbom and Jens Nordfält (2020), "The Sales Impact of Using Handheld Scanners: Evidence from the Field," *Journal of Marketing Research,* 57 (3), 527–47.

Grewal, Dhruv and Anne L. Roggeveen (2020), "Understanding Retail Experiences and Customer Journey Management," *Journal of Retailing,* 96 (1), 3–8.

Grewal, Dhruv, Anne Roggeveen and Jens Nordfält (2017), "The Future of Retailing," *Journal of Retailing,* 93 (March), 1–6.

Guha, Abhijit, Abhijit Biswas, Dhruv Grewal, Swati Verma, Somak Banerjee and Jens Nordfält (2018), "Reframing the Price Discount Using the Sale Price as the Referent: Does it Make the Price Discount More Attractive?," *Journal of Marketing Research,* 55 (3), 339–51.

Guha, Abhijit, Dhruv Grewal, Praveen K. Kopalle, Michael Haenlein, Matthew Schneider, Hyunseok Jung, Rida Moustafa, Dinesh R. Hegde and Gary Hawkins (2021), "How Artificial Intelligence Will Affect the Future of Retailing," *Journal of Retailing,* 97 (1), 28–41.

Herhausen, Dennis, Oliver Emrich, Dhruv Grewal, Petra Kipfelsberger and Marcus Schoegel (2020), "Face Forward: How Employees' Digital Presence on Service Websites Affects Customer Perceptions of Website and Employee Service Quality," *Journal of Marketing Research,* 57 (5), 917–36.

Hess, Nicole J., Corinne M. Kelley, Maura L. Scott, Martin Mende and Jan H. Schumann (2020), "Getting Personal in Public! How Consumers Respond to Public Personalized Advertising in Retail Stores," *Journal of Retailing,* 96 (3), 344–61.

Humphreys, Ashlee, Mathew S. Isaac and Rebecca Jen-Hui Wang (2021), "Construal Matching in Online Search: Applying Text Analysis to Illuminate the Consumer Decision Journey," *Journal of Marketing Research,*, (forthcoming).

Kraft, Manfred, V. Kumar, Colleen Harmeling, Siddharth Singh, Ting Zhu, Julie Chen, Tome Duncan, Whitney Fortin and Erin Rosa (2021), "Insight Is Power: Understanding the Terms of the Customer-Firm Data Exchange," *Journal of Retailing,* 97 (1), 133–49.

Martin, Kelly D. and Robert W. Palmatier (2020), "Data Privacy in Retail: Navigating Tensions and Directing Future Research," *Journal of Retailing,* 96 (4), 449–57.

Mende, Martin and Stephanie M. Noble (2019), "Retail Apocalypse or Golden Opportunity for Retail Frontline Management?," *Journal of Retailing,* 95 (2), 84–9.

Moreau, C.Page (2020), "Brand Building on the Doorstep: The Importance of the First (Physical) Impression," *Journal of Retailing,* 96 (1), 155–67.

Okazaki, Shintaro, Martin Eisend, Kirk Plangger, Ko de Ruyter and Dhruv Grewal (2020), "Understanding the Strategic Consequences of Customer Privacy Concerns: A Meta-Analytic Review," *Journal of Retailing,* 96 (4).

Rai, Arun (2020), "Explainable AI: From Black Box to Glass Box," *Journal of the Academy of Marketing Science,* 48 (1), 137–41.

Roggeveen, Anne L., Dhruv Grewal, John Karsberg, Stephanie Noble, Jens Nordfält, Vanessa Patrick, Elisa Schweiger, Gonca Soysal, Annemarie Dillard, Nora Cooper and Richard Olson (2021), "Forging Meaningful Consumer-Brand Relationships Through Creative Merchandise Offerings and Innovative Merchandising Strategies," *Journal of Retailing,* 97 (1), 81–98.

Roggeveen, Anne L., Dhruv Grewal and Elisa Schweiger (2020), "The DAST Framework for Retail Atmospherics: The Impact of In- and Out-of-Store Retail Journey Touchpoints on the Customer Experience," *Journal of Retailing,* 96 (1), 128–37.

Roggeveen, Anne L. and Raj Sethuraman (2020a), "How the COVID-19 Pandemic May Change the World of Retailing," *Journal of Retailing,* 96 (June), 169–71.

———————— and ———————— (2020b), "Customer-Interfacing Retail Technologies in 2020 & Beyond: An Integrative Framework and Research Directions," *Journal of Retailing,* 96 (September), 299–309.

Shankar, Venkatesh, Kirthi Kalyanam, Pankaj Setia, Alireza Golmohammadi, Seshadri Tirunillai, Tom Douglass, John Hennessey, J.S. Bull and Rand Waddoups (2021), "How Technology is Changing Retail," *Journal of Retailing,* 97 (1), 13–27.

Trivedi, Minakshi, Dinesh K. Gauri and Yu Ma (2017), "Measuring the Efficiency of Category-Level Sales Response to Promotions," *Management Science,* 63 (10), 3473–88.

Vadakepatt, Gautham G., Karen Page Winterich, Vikas Mittal, Walter Zinn, Lauren Beitelsphacher, John Aloysius, Jessica Ginger and Julie Reilman (2021), "Sustainable Retailing," *Journal of Retailing,* 97 (1), 62–80.

Villanova, Daniel, Anand V. Bodapati, Nancy M. Puccinelli, Michael Tsiros, Ronald C. Goodstein, Tarun Kushwaha, Rajneesh Suri, Henry Ho, Renee Brandon, Cheryl Hatfield and Billy Courtney (2021), "Retailer Marketing Communications in the Digital Age: Getting the Right Message to the Right Shopper at the Right Time," *Journal of Retailing,* 97 (1), 116–132.

Winterich, Karen P., Gergana Y. Nenkov and Gabriel E. Gonzales (2019), "Knowing What It Makes: How Product Transformation Salience Increases Recycling," *Journal of Marketing,* 83 (4), 21–37.